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Clinical Lectures.

THE DIFFICULTIES AND DANGERS WHICH MAY ARISE FROM INDISCRIMINATE ATTEMPTS AT THE REDUCTION OF STRANGULATED HERNIÆ BY MANIPULATION.

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Gentlemen:—It is, I assume, a matter of common knowledge that many methods of treatment in themselves excellent, and when properly used of much practical utility, may under certain conditions be not only harmful but perhaps disastrous, especially if applied without discretion by any person who does not possess the knowledge or skill requisite for their safe employment. The means available for the reduction of a strangulated hernia without operation form no exception to this rule, and by an unusual chance there are now under my care two patients lying in the Harris ward, separated from each other by a single bed only, whose cases illustrate this fact in a remarkable way.

Case 1. *Strangulated inguinal hernia; prolonged unsuccessful taxis; herniotomy; gut found partially lacerated; suture of bowel; radical cure; recovery.*—W. F——, a man aged twenty-seven, was admitted on Nov. 18th, 1891. In the previous April he found for the first time that he was ruptured on the right side. The hernia was always reducible, and a truss was continually worn. On the morning of the day before the patient came into the hospital the spring of the truss broke and he was therefore obliged to work without it. The hernia soon came down, and he was unable to reduce it. Vomiting thereupon set in, and during the night occurred many times. A few hours before his admission an attempt, lasting about a quarter of an hour, was made to reduce the hernia by manipulation, but without success, the the patient suffering great pain, especially during the latter part of the attempt. The bowels acted regularly up to the morning of the 16th. On admission the man had an anxious look and was evidently in very acute pain. There was occasional retching, by which a small quantity of sour-smelling gastric contents was brought up. The tongue was white, but moist; the pulse 100 and fairly full. In the right side of scrotum and running up to the groin was a large, acutely painful and tender swelling, very tense resonant and entirely without impulse. There was much pain about the umbilical region and also some tenderness over the hypogastrium, but no distention. Having regard to the prolonged taxis to which the hernia had already been subjected, no further attempt at reduction by manipulation was made, herniotomy being at once performed. Upon opening the sac several ounces of reddish fluid, containing air, escaped. A large knuckle of greatly distended gut then came into view, deeply congested and greatly glued to the lower part of the sac by very recent peritonitis. On freely exposing this gut, by laying open the sac from end to end, there was found over its most prominent part (i. e., at the anterior aspect of its lower end) a longitudinal laceration involving the peritoneum for about an inch; over half its length this rent passed through the subjacent muscular coat, from the opening in which the mucous membrane protruded, and seemed on the point of bursting. The stricture, which was at

*Delivered in St. George's Hospital Medical School, and published in the *Lancet*.

the inner ring and extremely tight, was then very freely divided with the hope that the tension in the gut would be thus sufficiently modified to allow of the wound in the bowel walls being sutured. This, however, was found to be impracticable, as the stitches immediately cut their way out, the tension not being sufficiently relieved spontaneously. It was at the same time clear that any attempt to reduce the tension by pressing the air contained in the bowel back into the abdomen would result in the rupture of the protuding mucous membrane, which I was particularly anxious to avoid for reasons to be presently discussed. I therefore selected the healthiest available spot on the bowel, and there punctured it with an exploring trocar, afterwards emptying the knuckle of gut of the contents, which consisted principally of altered blood, through the cannula. This having been done the gut naturally collapsed. The wound in its walls was then brought together with perfect ease and safety by means of five Lembert sutures of silk. A single suture of the same kind having been passed across the small peritoneal wound made by the trocar, the bowel was finally thoroughly cleansed and returned into the abdomen. The neck of the sac was then isolated, ligatured, and severed from the scrotal portion; the pillars of the ring were closed by kangaroo tendon sutures, a drainage-tube inserted, and the superficial wound united with silkworm gut. On the 20th four loose motions containing altered blood were passed. The bowels acted daily after this, and by Dec. 18th the patient was walking about the ward apparently in perfect health. In fact, he was practically well by Dec. 4th, but being very apprehensive about himself he was allowed to remain in bed longer than was really necessary. In addition to the points specially relating to the main subject of the present lecture, this case affords a good illustration of the successful treatment of cases of the kind by a method to which I wish to call particular attention. In all instances of strangulated hernia in which the laceration of the bowel does not involve the whole thickness of its walls, so that the intestinal canal is not opened up, the gut as the result of the strangulation is of course generally distended. In attempting to bring together the edges of the wound under these circumstances difficulty generally arises in consequence of the sutures cutting their way so readily through the peritoneum, that sufficient traction cannot be made upon them to effect the closure of the laceration with any safety. This tendency on the part of the stitches to cut their way out is due partly to the unyielding tension of the bowel and partly to the softening of its coats from pathological changes. Not only therefore is very little pressure required under such circumstances to increase the rent in the peritoneum, but when the tear involves the whole thickness of the muscular coat the mucous membrane bulges through the wound, and extremely slight force only is necessary to cause the protuding portion to give way, thus converting an incomplete laceration into a wound opening up the intestinal canal.

In cases of this sort it is sometimes also found that even after free division of the stricture no sufficient alteration in the tension occurs until digital pressure is used, which may be quite sufficient to burst the stretched and protruding mucous membrane—an accident which it is most important to avoid if possible, not only because it must of necessity allow the bowel contents to escape over the wound, but also because the protruding membrane is usually so thin and injured that if it is damaged further by laceration, incision or puncture, ulceration, and perhaps sloughing, is prone to occur later on, and give rise to trouble which may possibly be serious. In order to diminish the tension of the bowel and to allow of its shrinking of its own accord and without any necessity for inflicting further injury upon the protruding mucous membrane, I adopt and confidently recommend the following plan, which, it will be noticed, was used in this case.

The stricture having been freely divided, and the distended knuckle of gut carefully cleansed, an exploring trocar is passed into the bowel through the portion of its walls which appears most healthy (i. e., at a point which is certain to be somewhat remote from the laceration). The contents of the gut, consisting generally for the most part of altered blood, pass out easily through the cannula into a suitable receptacle, and are thus conducted quite away from the peritoneum, which therefore remains entirely unsoiled, as the muscular coat at the point of puncture clings so closely to the cannula that no leak takes

place. On the other hand, if the puncture be made in the protruding mucous membrane, leakage is certain, and soiling of the whole rent occurs, in addition to the injury inflicted by the puncture on the damaged structures. The collapse of the gut which follows spontaneously makes the approximation of the peritoneal surface over the laceration perfectly easy and safe, no matter how softened the intestinal walls may be. The gut may then be returned without hesitation, after it has been finally cleansed and a peritoneum at the seat of the puncture. This last detail is perhaps hardly necessary, but it is a source of additional safety during the return of the bowel, and adds nothing material to the length of the operation. The method here described of relieving tension in damaged or partially lacerated bowel by puncture through the healthier parts rather than through those which are most injured has, so far as I know, not been previously insisted upon but I am sure it is worthy of adoption.

Case 2. *Inguinal hernia with large hydrocele; attemped reduction by patient; rupture of wall of hydrocele, which was thus converted into a hæmatocele.*—W. B——, a laborer aged fifty-three, was admitted into Harris ward on Nov. 21st, 1891, with the following history. Three years previously he commenced wearing a truss, as he was told he had a rupture; and about eighteen months later he noticed some swelling of the scrotum which, upon applying to the Truss Society, he was told was not a hernia. On the day before he came to the hospital he felt some pain about the groin and noticed more swelling there than he had previously seen. Thereupon, thinking it was the hernia which had come down, he attemped to put it back by seizing the whole scrotal tumor in his hands and using considerable force. No immediate alteration was produced in the swelling, but acute pain followed directly, and in a few hours the whole scrotum became almost black. The pain gradually decreased, but much tenderness followed, on account of which he applied for treatment. On admission the patient was a big, strong-looking man. The left side of the scrotum was much discolored and distended by an oval swelling, very tense, tender, and non-translucent. Its upper end was quite free from the abdominal ring, which was large, and through it a hernia came down when the patient coughed. The bruising slowly disappeared, and the swelling decreased a little in size after rest in bed. On Dec. 17th, I laid open the scrotal tumor, letting out a quantity of hydrocele fluid and altered blood. On examining the walls of the cyst there was found at the upper and inner part a large rent, admitting the ends of three fingers, which passed into a considerable space beneath the scrotal integuments. The parts about this were matted together with recent inflammatory material and the walls of the hæmatocele were covered with new lymph. The hernia was not exposed in the operation, as it was thought wiser, considering the inflamed condition of the tissues, to postpone its radical cure, which the patient was anxious to have performed, until a subsequent date. The patient naturally made an uninterrupted recovery.

The main point of individual interest in this case is the fact that the injury was self-inflicted. Although the lesion produced here by the patient's manipulation was not a serious one it may sometimes be so. I have myself had an opportunity of seeing an instance in which taxis applied by the patient resulted in a small rent in the gut through which some fœcal material had escaped into the sac. It is true that the gut at the seat of injury had obviously been adherent and the laceration had resulted from the tearing away of the adhesion by the force applied; the fact, however, is significant that laceration of the bowel itself was produced by no more violent manipulation than that applied by the patient himself, who was perfectly accustomed to reduce his rupture.

The main possible disasters which may immediately follow upon attempts at the reduction of herniæ by taxis may be summarised as follows:—(1) Bruising the bowel; (2) rupture of the bowel wall; complete and incomplete: (3) laceration of adhesions; (4) rupture of the sac; (5) hæmatocele (in cases complicated with hydrocele); (6) hæmatoma of scrotum and surrounding parts; (7) reduction of the whole hernia with the sac (reduction *en bloc*).

1. *Bruising of the bowel.*—Some bruising, as shown by subperitoneal extravasation, of large or small extent, about the herniated bowel will be found in the majority of cases which have been submitted

to taxis unless extreme gentleness only has been used. The extent and severity will naturally depend, for the most part upon the amount and direction of the force applied and to a considerable degree upon the condition of the gut, which bruises more readily when greatly distended, especially in neglected cases which have been allowed to continue for a long period without treatment. It is interesting to note that bruising of the bowel, if in any way extensive, although without any apparent breach of surface on the peritoneal aspect, is almost invariably associated with bleeding into the intestinal canal, a fact conclusively demonstrated in many cases by the characteristic appearances of the first motion passed after the relief of the stricture, which nearly always contains altered blood. It may, in fact, be accepted without reserve that attempts at reduction by manipulation produce some bruising of the bowel in the great majority of cases of strangulated hernia. At the same time it may be fairly admitted that as a rule, unless great carelessness has been used, no permanent harm results. It is nevertheless necessary to insist on the occurrence of injury of the kind in order to give weight to the fact that attempts at reduction by manipulation are liable at times to cause injury. Taxis therefore should not be regarded, as it seems to be by some people, as a plan of treatment which if it fails to reduce the rupture, at least can do no harm. This last remark must not be taken to imply any objection to the proper practice of this method, but merely as a warning against its use carelessly and without due regard to possible evils which may under certain conditions result.

2. *Laceration of the bowel.*—This may of course involve the whole thickness of the intestinal wall or only one or more of its coats; the former is naturally the most serious since it allows of the escape of fæces into the sac. The latter condition may vary in degree from an almost imperceptible crack in the peritoneum to a laceration in the peritoneal and muscular coats inches in length, in which case the mucous coat protrudes, hernia-like, through the opening in the muscular wall. Whether the laceration is partial or complete the treatment is identical. The edges of the wound must be brought together with Lembert sutures, care being taken that the end stitches—if the lesion is of any extent—are placed a short distance beyond the extremities of the rent. When the gut is too tense to allow of approximation of the peritoneal surfaces it should, if necessary, be emptied in the way I have described in the first of the cases which form the text of this lecture. However small the crack in the peritoneum is, even if it be hardly perceptible to the eye, a single suture should be passed across it. If the condition of the patient in case of partial laceration is so desperate that the delay entailed by the suturing process is not justifiable the gut should be cleansed and returned into the abdomen, an unperforated drainage tube of large calibre being left lying in the canal in the way I have recommended in a lecture published in *The Lancet* in 1890.

A point of great interest to which sufficient attention has not, I think, of late been paid arises here with reference to the situation at which laceration from injury occurs in these cases. There appears to be an idea, which is traditional and supported by the teaching of the schools now that the tear produced by injury in the gut of a strangulated hernia takes place *at the seat of stricture* in consequence of the way in which the sharp edges of the constricting tissues as it were, cut into the distended bowel when pressure is exerted upon it.

Now I have seen several cases myself in which a rent in the gut was undoubtedly produced by taxis, and in two of these the lesion *was not at the point of constriction but on the prominent bulging and most distended portion of the bowel.* Both of these cases were recent, and in each the rent was in the long axis of the gut. The same result followed in some experiments made by me on the cadaver, artificial strangulation in two cases of old herniæ having been produced by inflating the bowel from the abdomen and forming a stricture by ligaturing the neck of the sac together with its contents. The hernia was in one instance then violently crushed and in the other struck with a stick; in both the laceration occurred on the prominent part of the strangulated knuckle and in the long axis of the gut. On consideration, this result, so far as the situation of the injury is concerned, is I think precisely what should be expected in recent cases, for in such the rent begins in the peritoneum, which under pressure

naturally gives way at the weakest point (that is to say, where it is most thinned and stretched by distension). A sudden blow, therefore, or prolonged hard pressure would as a matter of course lacerate the peritoneum in the part most stretched and thin— i. e., over the end of the distended knuckle rather than at the seat of constriction, where not only is it unstretched, but where it is actually supported by the surrounding parts.

In cases far advanced and neglected the state of affairs is altogether different, because in them the gut at the seat of stricture is indented by the edge of the constricting tissues, partially eaten through by ulceration from within, or perhaps grangrenous and on the point of giving way. Then the weakest point is at the strictured part, and very little force may be necessary to complete the perforation which has already commenced. It is, I presume, in connection with cases of this latter kind that the traditional teaching has fostered, for in recent cases of strangulation it certainly does not apply.

3. *Ruptures of adhesions in the sac.*—The tearing of recent adhesions during attempts at reduction by manipulation need not have any serious result, but free hæmorrhage into the sac may thus be produced so as to fill it completely with blood, although no serious lesion may be apparent. In old irreducible herniæ, in which band-like adhesions sometimes exist between the bowel and the sac wall or between different parts of the bowel itself, no harmful results need follow if the adhesions themselves give way, but if, as may happen, an adhesion brings away some of the intestinal peritoneum with it, a partial laceration of the gut results, which is, if at all extensive, a serious condition, especially if the case has been neglected and operation long deferred.

4. *Rupture of the sac.*—This, although a recognized injury and classed as one of the modifications of the reduction *en masse*, must be a very rare sequence of taxis, as the amount of force required to tear the sac is very great and would hardly be intentionally applied. Bruising of the sac is, however, common and I have seen a portion of its wall torn away with an omental adhesion; this, however, is not a rupture in the sense under discussion— i. e., a splitting of the sac wall from sudden or gradual pressure. In the post-mortem room I have not been able in artifically strangulated herniæ to rupture the sac without also bursting the gut. Rupture of the sac is therefore probably too rare to be other than a curiosity; indeed Sir Astley Cooper, after his large experience, says that it "scarcely ever" occurs from any cause. Formerly spontaneous rupture of the sac was also a recognized condition, but actual evidence of its existence seems wanting, or at all events is not convincing.

5. *Hæmatocele.*—A good example of this accident is afforded by Case 2, described in this lecture. After what I have said concerning the difficulty in causing rupture of a hernial sac it may at first sight seem strange that the sac of a hydrocele should give way so easily. There is nothing inconsistent, however, in this, for it must be borne in mind that the sacs of hydrocele sometimes undergo pathological changes which result in softening and thinning, so that they become weak in parts.

6. *Hæmatoma from rupture of a large vein or veins outside the sac.*—Enormous blood extravasation may be thus produced and occasionally upon the application of comparatively slight force, especially in elderly people. I once had an opportunity of seeing a large blood swelling involving the scrotum and groin, which were nearly black from discoloration, said to have followed upon nothing more violent than manipulation necessary for the adjustment of a truss to an easy reducible hernia in a subject nearly eighty years old.

7. *Reduction "en bloc"—i. e., the reduction of the sac, together with its contents, the strangulation being therefore unrelieved.*—The only point to which I need here call attention in this respect is the singularly small amount of force which sometimes seems necessary to produce this accident. I have personally seen only one case, and that was not in my own practice. The hernial tumor seemed to disappear almost the moment the hand was laid upon it and certainly before there was time for the application of any methodical violence. So much was this the fact that I cannot help feeling that there must be in such a case some kind of spontaneous action from above which contributes to the reduction. Is it possible that extreme irregular spasmodic attempts at peristalsis may act in this way?

It is only fitting that such an ominous list of casualties, which are not only possible, but actually occur in practice as the result of the use of taxis, should be followed by some indication as to when and how the reduction of an irreducible hernia by manipulation may be attempted without risk. The relative safety of this plan of treatment is dependent on three conditions: (1) The manner in which the taxis is applied; (2) the period during which the manipulation is persisted in; and (3) the state of the hernia.

1. *The mode of applying taxis.*—This may apper such a purely elementary point as to render its consideration hardly justifiable outside the pages of a student's text book. It is nevertheless true that practitioners, otherwise intelligent and trustworthy, do at times manipulate a hernia in the manner best calculated to cause injury to the contents of the sac, whilst it affords the least possible chance of effecting reduction. I do not propose to occupy time now with a description of the method by which the taxis may be applied safely and with a fair prospect of success, as it can be more usefully learnt from practical demonstration at the bedside, but some of the details of the process are so important and essential that they require a passing notice. The details referred to are as follows: (*a*) All manipulations should be conducted only with thoroughly warm hands; (*b*) the neck of the hernia should be firmly supported by one hand whilst the other manipulates the body of the tumor. (*c*) In using the fingers all pressure from the finger-ends should be made by *the front of the digital pad and never by the actual tips.* (*d*) The pressure necessary in the manipulations should be gentle, firm and regular, not forcible, unsteady and spasmodic. The necessity for warm hands, for the support afforded to the neck of the hernia, and for the avoidance of the use of the actual finger tips, is, I cannot help feeling, not so universally acknowledged as it certainly should be, for I have more than once seen attempts made at the reduction of a rupture by grasping the body of the tumor with hands almost blue with cold, the neck of the hernia being left entirely unsupported, and then with a punching and rolling movement, during which the finger tips have been deeply pressed into the parts, the force has been gradually increased until further persistence in the attempt has been rendered impracticable by the protests of the patient. Where injury is possible it is from some faulty plan as this that it is most likely to result. The cold hands excite every resistance in the way of muscular action; the want of support to the neck of the hernia makes its reduction very unlikely by allowing the gut to bulge over the margins of the constricting ring, and, beyond this, in neglected or longstanding cases when the bowel has commenced to ulcerate from within, the pressure of the sharp edges of the stricture acts at a great advantage in further injuring and perhaps bursting the thinned and weakened intestinal walls. Finally the sharply indenting finger tips are admirably adapted for causing an unnecessary amount of bruising and possibly laceration of the gut.

2. *The time which should be occupied in taxis.*—Judging from my own experience, and from what I have seen in the practice of others, five minutes should be taken as the outside limit during which manipulation of a hernia in cases of apparent strangulation or when impulse on coughing is absent may be with safety persisted in, no matter how gently it is applied. In unstrangulated cases the same time should always be considered as sufficient, for, although no actual harm need result, if the time be extended it may very easily produce it; moreover, if success is not attained by the end of five minutes it is very unlikely to result at all, and further attemps are practically useless.

3. *The condition of the hernia.*—When properly applied and with the precautions just mentioned taxis may be used with safety—(*a*) in all cases in which the true hernia impulse is present, provided always that there is neither any marked tenderness nor inflammation in the sac or its contents, when its employment would of course be entirely negatived; (*b*) in very recent cases of strangulation where the tension is not extreme. This latter is a recognized principle and is therefore worthy of respect, but I very much doubt whether it is possible, excepting perhaps in infants, to reduce by manipulation any rupture in which the hernia impulse is not present. For myself at least I must admit that I have never been able to return with any resonable application of force a hernia in which I could detect no impulse. This impulse, it is true may have some-

times been slight, but it was present all the same in the cases where reduction was possible, although it must be admitted that I could not always demonstrate it to my house surgeons, in the hospital patients. A large distended hernia universally resonant should be treated with more than usual gentleness, for in such cases the bowel is far more liable to injury than in any other kind, especially if adhesions happen to exist in the sac. Hernial tumors dull on percussion, with omental or fluid contents, may be manipulated with greater freedom without risk of damage being done, but in these reductions is entirely out of the question in the absence of impulse, the utility therefore of persistence in the attempt at all under these circumstances is not plain. Every case of apparently strangulated hernia must necessarily be treated upon its individual merits, but, for my own part, I am sure that, as a general principle, it is better in herniæ which are obviously strangulated and entirely without impulse to perform herniotomy at once rather than make attempts at reduction by manipulation, because I have no doubt whatever that early herniotomy in fairly competent hands is infinitely less hazardous than an unwise persistence in fruitless attempts at reduction by taxis. If due regard be paid to the patient's welfare, one thing at least is certain—viz., that a strangulated hernia which has once been subjected to taxis should be operated upon at once, and no further manipulations used until after the tumor has been explored and the structure freely divided.

It must not be imagined that all risk of lacerating the bowel during attempts at its reduction necessarily ends after the sac has been laid open in herniotomy, or indeed in every case after the stricture has been divided, for, although to the best of my knowledge the accident has not occurred under these circumstances in my practice, I have been present at an operation in which a surgeon of experience certainly did produce a laceration of the peritoneal coat of the bowel, whilst attempting to reduce it after the division of the stricture which obviously gave rise to the strangulation. This difficulty sometimes experienced in reducing the hernia after the stricture has been cut is undoubtedly as often as not due to the division being not sufficiently free, the little nick so commonly recommended being too slight for securing the necessary relaxation of the constricting band. I am sure, from my own observation that harm is more often likely to arise from too slight a division of the stricture than from one which is too free. Free division of the parts about the neck of the hernia as a rule entirely obviates any chance of injury to the gut, whilst the possible anatomical dangers entailed in this free incision have been, I have no hesitation in saying, unduly exaggerated.

Although I make a practice of dividing the stricture freely, I have never had the slightest cause to regret it, and certainly have never seen any hæmorrhage which has given the least anxiety under the circumstances. The only case in which I had any trouble whatever on account of bleeding after herniotomy was a strangulated umbilical hernia, in which alarming hæmorrhage took place into the abdominal cavity from a torn omental vein. This vessel was almost certainly burst by the force which was necessary for the return of the hernia through a ring which had been only slightly divided; had the division been altogether more free the hernia could have been reduced without any force and the vessel would, I believe, have undoubtedly have remained intact.

I now come to a point which is especially interesting in connection with a further difficulty which occasionally arises in the reduction of a hernia, even after the stricture has been freely divided. At first sight it is a singular fact that any difficulty should occur at all under these conditions, still it is quite certain that it is sometimes met with. For instance, in a case of inguinal-hernia, under my own care I was unable, after repeated division of the stricture, to reduce the intestine, although on passing the finger, as is my habit, through the canal into the abdominal cavity, I could feel nothing in any way constricting the bowel, The only noticeable thing to be felt was a loose membranous fold which, springing from the outer wall of the canal, lay quite flaccid upon the gut, and alllowed my finger to pass by it with perfect ease. Whilst I was attempting to return the bowel, the end of one finger being placed on it just below this fold, I noticed that as the gut was pushed against the flaccid flap the latter seemed to grip the bowel after the manner of a sling. I therefore divided

the fold, and then returned the hernia without the least trouble. Here, then, the obstacle to reduction was clearly this loose sling-like fold. The existence of membranous flaps like this and the manner in which they sometimes resist the return of the gut in operation for strangulated-hernia have not of late received the attention they merit. Bands and flaps of this kind, which are not very rare, should invariably be divided whether they seem to compress the bowel or not, for if they do not actually prevent reduction it will be much more easily effected after their division. The history and mode of formation of these interesting folds may be conveniently reserved for consideration in another lecture.

CHOLEDOCHOTOMY.

Prof. Küster reports the case of a woman aged 49, who had suffered for two years from attacks of violent colicky pains in the abdomen, recurring at intervals of four to six weeks and followed by jaundice. Gall-stones had been frequently found in the fæces. The patient was much exhausted and emaciated. Laparotomy was performed, an incision, ten cm. in length being made parallel with and below the border of the ribs. The large intestine was connected with the lower border of the liver and the gall-bladder by firm adhesions which were slowly separated. The gall-bladder was empty, but the common bile-duct contained two calculi, which were extracted through an incision two cm. long. The wound in the duct was closed by catgut sutures and a continuous silk suture. A tampon of iodoform-gauze was inserted and the greater part of the abdominal wound sutured. Five days after operation the tampon was removed, a fistula being left, which later gave rise to a severe hæmorrhage, necessitating the reopening of the entire abdominal wound. The fistulous track was curetted, cauterized and tamponed, and the patient now made a rapid recovery, the jaundice disappearing completely. The author recommends choledochotomy in all cases of calculi in the common duct, where the latter is accessible and the stone can be felt. The operation has been performed seven times (inclusive of the author's cases) with only one death.—*Archiv. f. Klin. Chirurg.*, *Bd.* 43, *Hft.* 1, 1892.

Communications.

DISEASE OF THE KNEE-JOINT IN ITS CONVALESCENCE.

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For pathological reasons disease of the knee-joint has been divided into stages, generally three, in order to indicate its progress from the invasion to the destruction of the articular structure. But after appropriate treatment there is a regressive stage, and, finally, a convalescent stage. Failure to pass a patient through this latter condition properly is the cause of frequent recurrence of the inflammation and may on this account be mistaken for a tuberculous or fungoid affection, or due to a loose, floating cartilage; it is then condemned as a hopeless case offering excision or amputation as the only remedy. Bony ankylosis of the knee-joint from disease, treatment, or excision, is rare, difficult to obtain, unnecessary and undesirable. Fibrous ankylosis—whatever that condition may be—leaves the joint stiff but too unsteady for utility; at the same time it can be taken advantage of in restoring to the joint its function, that is, the mobility of a ginglymoid articulation, by encouraging voluntary muscular action while protection from undue force or use is provided.

Let the healthy lower extremity be supported by the surgeon placing one hand under the lower third of the thigh, and the other hand under the lower third of the leg. The patient is then asked to rest the weight of the limb in the doctor's hands—the muscles to be thus relaxed or devitalized—to use a term of Delsarte. Let there then be made a very slight, quick, lateral movement of the lower third of the leg. There will be felt or heard a click or bump at the knee-joint. Now, after a period of rest from use, enforced by the treatment or in the course of the disease, the muscles of the knee-joint are in this devitalized condition, and any attempt to use the knee-joint in walking or standing exposes it to a succession of injuries of this character. These either sooner or later of themselves produce a phlegmasia of the knee-joint, or maintain a condition which needs only

a slight fall or twist to accomplish it. If a so-treated patient can walk at all, and he does so with the knees exposed to view, the lateral jerk of the knee can be detected by comparing the action of the sound limb with its affected mate tho' the patient may be entirely ignorant of such effect.

The following case serves to illustrate the effect of this lateral inward movement: Patrick O'Connell, æt. 19, employed as orderly at the Ninety-ninth Street Reception Hospital (Department of Charities and Correction, New York City) was disabled every few months by synovitis of the left knee and was on that account brought to me in August, 1881, by one of the surgical staff. His duties required him to be active upon his feet. He had not received any injury, and there was no assignable cause for the recurrence of these attacks of synovitis. They yielded to treatment, and on recovery he could go about as usual. His health was good. He had a tall, spare, muscular, well-made form and a symmetrical gait stepping firmly on both feet. The appearance and function of the knee-joint were good in sitting and standing postures; but in searching further I had him strip, and, placing my hands on the crest of either ilium, discovered a want of symmetry in the length of the lower extremities, the left being 1⅞″ shorter than the right, unsuspected by the patient or those seeing him. When attending school some years previous however, he remembers being chided by the master, because, when sitting in class with other boys he did not place his knees on line. He never knew it was because there was a difference in the length of his legs. On having him walk across the room several times, a quick, lateral inward movement of the left knee at each step could be detected. The force or impact from bringing the foot 1⅞″ to reach the ground was received on the knee in a lateral direction and was an ever-present source of traumatism, particularly when his duties as hospital orderly required him to move about quickly in many directions. As the non-symmetry of limbs was a product of a too slow growth of the left extremity or a too rapid growth of the right (neither from any morbid process), the change from equal to unequal lengths of lower extremities was so gradual that the patient accommodated his body to a symmetrical gait without noticing the lateral jerk at the knee. This disappeared on the addition of a high cork shoe, and at the last report three years afterwards, there had been no further trouble.

The anatomical structure of the lower extremities can here be used in explanation of this behavior of the knee. The heads of the two femora are separated by the width of the pelvis, and the top of their shafts are placed still further apart by their necks. If the bones of the lower extremity were parallel to the median line of the body from the hip-bone to the feet, the knees and feet would be too far apart for comfort and appearance; our locomotion would resemble the waddle of a duck, though in an architectural point of view the construction would be good for the purpose of bearing superincumbent weight. The oblique direction of the femora gives the desired closeness and parallelism of the legs at and below the knees, and to make up for the want of steadiness from change of direction, large, strong muscles are provided to maintain the hinge-like function—diarthrosis-ginglymus—of the knee-joints. The thigh is consequently the most muscular part of the body, and women have larger thighs than men because of their wider pelvis. Now, in this oblique direction of the femora we have a predisposing cause for traumatism in a previously damaged knee, when its muscles and ligaments—which form the bolt for its hinge-like function—are devitalized and only loosely hold their joint, tho' the extent of motion may be limited to a very small arc.

There is another muscular condition to be considered in knee-joint convalescence, the inability of one set of muscles to let go in response to the active contraction of their antagonistic set. In whatever position, or degree of flexion or extension, the knee-joint is left after the disease, there is an arc of motion beyond which the joint cannot move. It may be a fraction of a degree or 20 or 30 degrees in extent. The muscles will not "let go" beyond this limit. Eventually they become in a state of contracture adapted to this arc, which acts adversely upon the articular cavity. The non-use of the joint has prevented the necessary extent of synovial secretion and parts of the articular surfaces are brought in contact when not in a proper condition. The patient does not complain of pain, but dreads to have the knee

reach that limit of motion, and may not allow any motion for fear that limit may be reached.

The synovial membrane is here the largest and most extensive in the body. In the interior of the joint are the posterior crucial ligaments, which are blended with or inserted into the inter-articular cartilages, and are surrounded by the synovial sac. When the movement of extension is performed beyond or up to the normal or the acquired limit, there is a strain upon these ligaments and injury done the connecting synovial membrane. A synovial pouch of this membrane lies under the tendon of the quadriceps-extensor muscle, as it passes upwards from the patella, and is held in place by the subcrureus muscle. This pouch is unduly compressed on flexion of the knee-joint, if the extensor muscle does not relax in unison with that motion. The membrane extends laterally under the vasti muscles, and is secured to the inter-condyloid notch by a prolongation of itself, the ligamentum mucosum. It is so intimately blended with the tendons, ligaments, and cartilages of the knee-joint, that if not in a perfect condition to perform its functions, it cannot but be injuriously affected if an unevenly distributed pressure is placed upon any portion of it by mechanical unsteadiness of the joint in any direction or by unbalanced muscular action. And yet the function of this membrane, the secretion of synovial fluid, cannot be acquired, except as the result of some use and motion of the joint.

In applying therapeutic measures at the beginning of treatment, in all probability the first and principal one will be *rest from use*, enforced at once and complete. But on the arrest of inflammation, we desire to procure *rest from disuse*, and often erroneously apply that at once and complete too. To continue rest from use after the inflammatory condition has gone, keeps up an impairment of nutrition, which will as surely destroy the joint as does the disease; but to *at once* institute the use of the joint without giving some definite protection as to the extent of this use, while the nutrition of the joint gradually furnishes its structures with vitality to resume their functions, is equally pernicious.

A patient having the knee-joint presenting only symptoms of a sub-acute inflammation is placed on his feet with crutches arranged to receive the impact of the body, but not to take its entire weight from the limb; the foot is allowed to rest upon the floor with a sense of being protected from having too much weight thrown upon it, and though there may be added a height of not more than one inch to the shoe of the sound limb, it is done only to remove from the affected limb the feeling of a superincumbent weight beyond its capacity and to lessen the amount of muscular effort in lifting the limb; but in no sense to make it pendent as is so often and injuriously done. This height of sole should be gradually lessened, as the joint gains strength, and finally removed. But a more precise protection is often needed, and apparatus on the following plan should be provided: The weight of the body should come upon an ischiatic strap in the same manner as stated in reference to the crutches. It is part of the treatment that the joint is benefited by receiving a portion of its share of the superincumbent weight of the body. This is removed as the necessity for its use ceases, and the rest of the apparatus to which it is attached continued as will now be explained. There should be a joint at the knee which can be locked immovably at any desired angle, or to be free at the will of the patient. The construction of this joint should not permit lateral motion, and yet move easily and smoothly. The hinge-like surfaces are best made parallel and smooth by being cut from a solid bar of steel by the revolving cutter of a milling machine. Much of the lateral steadiness depends upon the bolt having a sufficiently large diameter, from ½ in. to ⅝ in. for an adult case. It takes the place of the "bolt" of the knee-joint which is composed of its muscles and ligaments. The bar to lock or to free the joint I had placed within reach of the hand without stooping and so it may be operated without disarranging the clothing and at the will of the patient. When the joint is free, it stops the limit of extension similar to the joint of a carpenter's rule and this limit should be fixed to prevent strain from the articular surfaces from contracture of the hamstring muscles. In a vertical position the weight of the body is thus received on the ischiatic strap at the top of the apparatus. A limit to the flexion of the knee is

also to be adjusted to prevent articular pressure from contracture of the quadriceps extensor acting through the patella. These limits may be increased by following the gain in extent of motion acquired by the knee, but not by the slightest degree *exceeding* it. From the bar on the outer side of the limb furnishing the above mentioned arrangements, are attached two firm bands, one above and one below the knee, which passing behind the limb, furnish attachment for plates giving lateral support above and below but not against the knee joint. The shoe bears a steel which receives the lower end of the outside bar by a slip-joint, and the apparatus is thus readily applied by the patient after the shoe is secured to the foot. It is important that the heel of the shoe extend underneath the steel forming this slip-joint upon which rests the lower end of the apparatus.

At night the knee must have local rest, so it may recuperate from a lateral as well as a posterior aspect; flexed to a degree at which the patient finds it is at rest. Either a gypsum shell may be used, or, better, a frame composed of two steel bars bent accurately to the contour of either side of the limb in its flexed position, the one on the outer side reaching from the trochanter to within an inch of the ankle. They are connected by three or four posterior steel bands sloped to fit the posterior contour of that part of the limb with which they come in contact. The inner bar bears an oval plate bent or pounded to receive the inner side of the knee-joint, against which the knee should find lateral rest. Leather, canvas or web straps should be secured to receive the posterior surface of the limb by adjustment to its shape at, above, and below the popliteal space. The frame is further steadied in position by adhesive straps or either side of the leg, received by buckles at the lower end of the frame. As there is not traction or counter-traction, they need be only a slip ¾ or ½ inch wide, and do not need any bandage, so that the action of the muscles is not interfered with. We now have a means of carrying out a definite plan for giving the knee protection from the traumatism arising from locomotion, while at the same time the joint and limb are acquiring restoration from the effects of its disuse. It is permitted to receive weight and concussion modified to suit its strength, but is protected from the traumatic lateral jerks spoken of; it has flexion and extension limited to an arc of motion suited to its capacity, and it is given local rest at night or at other times as may be needed. The use of the limb under these circumstances is followed by increase of mobility and return of strength. The atrophy above the knee, or the swelling and puffiness of the foot and leg disappear; and the backward displacement of the head of the tibia is gradually reduced by the action of the quadriceps extensor, which has been inert for want of some limit to its action upon the joint. Without this mechanical limit every attempt at muscular use of the limb would "jam together" its articular surfaces. The accomplishment of all this requires a combination of *professional* skill with mechanical precision, to be rendered at the conception of the apparatus, during its construction and application and at the modifications required during the progress of the case. The patient should be considered under treatment while the apparatus is in use, and the *professional* responsibility continued throughout such use, should furnish the necessary skilled advice to guide the patient in the emergencies which arise from time to time in connection with the knee and the general health.

TREATMENT OF SYCOSIS.

Kromayer (*Therap. Monatsh.*, April 1892) says that sycosis is always due to micro-organisms, either the fungus of herpes tonsurans or the staphylococcus. The two points in the treatment consist in (1) preventing auto-infection, and (2) curing the affected places. The latter is effected by depilation and the use of Rosenthal's ointment (sulphur and zinc oxide), but if thick infiltrations exist scarification or scraping may be necessary. If many pustules are present incision and the application of solid nitrate of silver may be useful. Auto-infection is prevented by depilation of the sound hairs in the neighborhood and the vigorous application of a strong spirit solution of corrosive sublimate. Thus in the evening depilation is performed and the ointment applied, and on the following morning the parts are cleansed with paraffin from the remains of ointment, secretion, etc., then disinfected with the mercurial solution and covered with ointment.—*Brit. Med. Jour.*

THE MARRIAGE QUESTION FROM THE STANDPOINT OF GYNÆCOLOGY.*

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After thanking the Fellows for the honor they had bestowed upon him by electing him to the Presidential Chair, the orator briefly retraced the birth and development of gynæcology as a separate department from obstetrics, and to the *rôle* played by Scotchmen in its advancement. Pointing out that the term gynæcology comprised the study of all that concerned the well-being of the sex, as well as that of the morbid processes in individual women, he selected for the subject of his remarks the conjugal relations which must always be kept in view by the gynæcologist in treating the diseases of women, in order to render them capable of their highest function of motherhood.

It is, he said, the more necessary for gynæcologists to consider the subject that in recent times it has been fully treated of in all kinds of newspapers and magazines by writers of all varieties of mind. A year or two ago one of the daily papers intimated that it had received as many as 2,700 letters from various correspondents on the marriage question. When the laity are venting all sorts of ideas derived from sources that range from supernatural revelations to animal instincts, the trained physician will be expected to express the opinion that will correspond to the result of scientific observation, and philosophical reflection. This may especially be expected of the gynæcologist, for in the process of reproduction the *rôle* of the female is of higher import than the *rôle* of the male, and it belongs to him to consider under what conditions she may fulfil the functions with greatest safety to herself, and with best hope of producing numerous and healthy offspring.

"No excuse is needed," says Darwin, "in dealing with the effects of sexual selection, no excuse is needed for treating this subject in some detail," for as the German philosopher, Schopenhauer, remarks, "the final aim of all love intrigues, be they comic or tragic, is really of more importance than all other ends in human life, what it all turns upon is nothing less than the composition of the next generation. . . . It is not the weal or woe of any one individual, but of the human race to come, that is at stake."

The union of the sexes that causes impregnation comes about under the impulse of a mutual attraction, so strong that the great naturalist whom I have first quoted in the application of the principle of sexual selection to evolution is led to "the remarkable conclusion that the nervous system (the medium of appreciation of sexual pleasure) not only regulates most of the existing functions of the body, but has indirectly influenced the progressive development of various bodily structures, and of certain mental qualities. Courage, he says, pugnacity, perseverance, strength, and size of body, weapons of all kinds, musical organs, both vocal and instrumental, bright colors and ornamental appendages have all been gained by one sex or the other through the exertion of choice, the influence of love and jealousy, and the appreciation of the beautiful in sounds color, and form; and these powers of the mind manifestly depend on the development of the brain."

Although the gratification of the sexual appetite is not a necessity for the individual, statistics show that the condition of celibacy is not favorable to health, a fact which is admirably shown in Bertillon's article on "Marriage" in the Dictionnaire Encyclopédique des Sciences Médicales." The table drawn up by this observer shows that the mortality is markedly higher among bachelors and widowers than among husbands, the same proportion holding good, though less strikingly, among the female portion of the population.

1. Mortality is higher among the unmarried than among the married. The tables in which Bertillon demonstrates the depreciation of the insurance value of the lives of the unmarried as compared with the married are drawn not only for France, but also for Paris, for Belgium, and for Holland. For England and Sweden he could not obtain the proper data. The

*Inaugural address as President of the British Gynæcological Society.

figures in the various columns of his extended table are so closely confirmatory of the general results, that it will suffice to look at the French table of the mortality of both sexes at different ages, as that is affected by their being on the one hand bachelors, husbands, widowers, or on the other spinsters, wives, widows.

Proportion of Deaths per 1,000 at Different Ages of the Unmarried, Married, and Widowed.

Ages.	Bachelors.	Husbands.	Widowers.	Spinsters.	Wives.	Widows.
15-20	6·89	51·32	774·	7·53	11·86	112·31
20-25	12·88	8·92	49 6	8·32	9·92	23·62
25-30	10·17	6·24	21·84	9·02	8 96	16·9
30-35	11·51	6·82	19·17	9 37	9·36	15·03
35-40	13·15	7·52	17·50	10·87	9·29	12·78
40-45	15·62	9·55	18·89	13·28	10·14	13·30
45-50	19·60	11·47	23·2	15·71	10·69	15·20
50-55	25·8	15·61	26·8	20·97	14·11	18·71
55-60	31·1	21·5	34·17	26·90	19·29	24·47
60-65	45·96	32·6	47·5	40·58	30·75	37 07
65-70	58·5	44·8	62·97	58·3	45·8	53·5
70-75	85·1	71·5	95·4	85·5	72·67	86·1
75-80	123·	114·5	143·9	140·5	109·4	126·7
80-85	208 7	182·8	221·8	222·5	172·5	198·
85-90	268·4	228·6	263·05	206	205·1	264·
90-95	222·	279·	319·	214·1	256·3	308·
95-	490·	357·	385·	337·7	416·	324·

These figures give us the proportion of deaths per thousand of the several groups at successive quinquennial periods of life. If for the moment we leave out of sight the deaths in the first quinquennium where the individuals were under twenty years of age, we observe that the mortality of the central group—the married people—is markedly less than the mortality of the group on either side. This is more distinctly seen in the case of the men, among whom between the ages of twenty and twenty-five there is a mortality of 12·88 per thousand among bachelors, and 49·6 among widowers; and only 8·92 among married men. The difference is still more striking at a more advanced period of life, as between the ages of forty and forty-five. At that age there is a mortality among married men of 9·55 per thousand, whilst among bachelors the mortality amounts to 16·62, and among widowers to 16·89 per thousand. It can, as Bertillon further indicates, be put in another form. If we take the numbers in a community, that at a given time would furnish 100 deaths among the married men, and ask what is the mortality among the same number of bachelors and of widowers we find that for 100 married men who die between the ages of thirty and thirty-five, there die, of bachelors 169, and of widowers 281. Between the ages of thirty-five and forty the proportion is—175 bachelors, and 233 widowers to 100 married men; between forty and forty-five, 174 bachelors, and 198 widowers; between forty-five and fifty the figures become 171 and 194; between fifty and fifty-five 165 and 172. The figures show that among bachelors there is a rise in the relative mortality till between the ages of thirty-five and forty-five, after which it gradually declines.

The result of Bertillon's statistics is to show that the conjugal association, provided it is not prematurely entered on, is salutary to both sexes, though it is the husband who benefits most from the union. The dangers of childbearing neutralize its benefits to the female up to the age of twenty-five in France, and in Belgium and Holland even up to the ages of forty or forty-five. "The comparison," he says, "of the vitality of married women and widows above the age of fifty with that of spinsters is very significant. It shows that the dangers of maternity are prolonged beyond that time of life. A woman who, by her celibacy, has deprived her organs of their special function, who has denied to her youth the pleasures of love, and the labors and joys of motherhood, has not thereby insured her old age against the dangers peculiar to it, but, on the contrary, she remains more exposed to them. Love and motherhood, in the salutary conditions of marriage, far from exhausting vitality preserve and protect it in the present and in the future, because in France, the mothers of families, wives, or widows, at every period of their existence after the age of twenty-five pay a smaller tribute to death than the spinsters of corresponding age."

Other interesting points are the comparative immunity of married persons, in respect of suicide and insanity, and the small relative proportion contributed by married persons to the criminal population.

When such statistics are before us we are prepared for an outburst like this from Thuliè (*La Femme*), who writes from a purely natural history and evolutionary standpoint, in dealing with the question of voluntary sterility, and asks, "This

sterility which is a shame in the eyes of men who obey natural instincts, and a glory for the ignorant metaphysicians of Christendom—what is it for modern sociologists, who base their doctrines on the knowledge of man, and not on revelation?" and he answers, "From the point of view of the individual it is an infirmity; or if the sterility be really voluntary, it is a fault which deprives the human being of joys the most profound and pure, and removes the most powerful impulse to exertion and activity. From the point of society, it is, for the races affected by it, a fatal decrepitude and, after the lapse of a longer or shorter period, their disappearance before the strong and prolific races. From the point of view of humanity, it is a danger, or at least a delay, in the progressive evolution of the race." At any rate we can see that those who try to evade the laws of physiology, which require the multiplication of the race do so under penalties such as nature teaches us always to expect to follow any rebellion against her laws.

Passing on to discuss the "physiology of marriage," we must examine the effects of the different methods, (1) in respect of fertility, and (2) in the respect of the offspring.

COMMUNAL MARRIAGE.

Of all the methods that have been sanctioned or proposed for the propagation of the race the worst is that which has been designated the "communal" or "promiscuous" or "free-love" union of the sexes. Westermarch, in his recent elaborate work on "The History of Human Marriage," tries to prove that no such custom prevails or has prevailed, though Lubbock, Bastian, and many others had formed the hypothesis that such had been the case with primeval man. But then his eagerness to establish his own hypothesis, that we derive our origin from monogamous apes, leads him to minimise the evidence on the other side, and even if it be, as he maintains, a divergence from the archaic custom, something very like communalty prevails among the North American Indians and South Sea Islanders, where it is seen to eventuate in sterilization of the women, and death or destruction of the infants. So that Thulié says of it, "Children are scarce where the man is only a fertilizer." The mischief of it is seen nearer home in the promiscuity of the abandoned women. Were London decimated no physiologist could expect, as no philanthropist could wish to see its ranks filled up by the offspring of its forty thousand prostitutes. "Il ne pousse pas d'herbe dans les chemins où tout le monde passe," says Bertillon.

POLYANDRY.

Polandry is perhaps not far removed in its deleterious effects from communalty. It is said to prevail in some poor regions as in Thibet, among the Esquimaux, where the co-associates are usually brothers, the eldest of whom chooses a wife for the party. This kind of union is incompatible with fertility. The woman may be mistress of a household, but she has all the responsibility, trouble, and fatigue of the management, and when she dies in childbed, or soon after, the child so often perishes that the custom has grown up among some polyandrous people of burying with the dead mother the child that has not arrived at the stage of development when it can feed itself.

POLYGYNY.

Polygamy, or rather polygyny, though a distinct advance on polyandry, is still when measured by the rule we are applying an unphysiological institution. The women of the seraglio are in no wise fertile. The master may be the father of many children, but the individual wives have relatively few, and hence it is found that the birth-rate in polgynous countries is inferior to that of the populations where monogamy prevails, while the infantile mortality increases. There is thus a tendency to diminution in the numbers of polygynous populations, who are often warlike in character, and keep up their supply by raids on neighboring tribes, or by the purchase of slaves.

MONOGAMY.

Bertillon defines marriage very fully as "A synallagmatic (mutually consenting) and authentic (openly acknowledged) contract to constitute a family by which the pair, besides the sexual relations, assure each other of community of life, of effort, of interest, and of conscience with a view of mutually providing society and

material and moral support, and of securing the proper upbringing of their children." It is in such a monogamous union, in obedience to the law of "one with one mutually consenting and openly contracting," that we find the surest guarantee for the maintenance and multiplication of the race. The products of such a union are more numerous; they are healthier; they have better chances of being reared successfully. This will come out more clearly if we look at some of the consequences of infraction of this great law. Some of these consequences may fall on either of the individuals who break the fence that Nature has set around the procreative processes. But we concern ourselves here with the consequences of the female.

DANGERS OF INFRACTION OF LAW.

We ask, What are the risks to a woman yielding herself to a seducer, *i. e.*, to a man who has not openly declared his readiness to assume martial responsibility.

1. She may become tainted with *syphilis*. Of course, this might happen to a woman formally married, who had not been careful to ensure herself against damaged goods in the making of her bargain. When the day comes for the righting of the wrongs of women the law will do something to protect her from this injury, or compensate her where it has been inflicted on her innocence. Assuredly if it had been the rule that this disastrous element was introduced into the marriage contract by the wife instead of being, as in the case, the rare exception, we men would long ago have found legal means of freeing ourselves from partners whose condition was a danger to us and our offspring. However this may be, the unmarried woman is in danger from infection, whether by inoculation of a primary sore or transmission through a tainted ovum, and how mischievous the syphilitic virus is in aggravating many female disorders and in lessening the powers of reproduction is but too well known to every general practitioner.

2. She may contract a *gonorrhœa*. Up till a recent period this would have been regarded as a comparatively trifling ailment, and in some text-books on surgery it is still too slightly dealt with. But since Noeggerath published his remarkable pamphlet in 1872 on "Latent Gonorrhœa" gynæcologists have become more and more alive to the pernicious effects of this often insidious malady, and Professor Sinclair and some others have shown its virulence in initiating some of the most painful and protracted illnesses of women, and leading all too often to their hopeless sterilization.

3. She may become *pregnant*. Escaping the pathological risks of illicit intercourse the physiological result may follow, and she finds herself impregnated. There is no time at which she can be sure that conception will not follow the insemination. If she counts on an agenetic period she may be mistaken; if on preventive measures they may fail her; and that which to her married sister brings the brightest hope befalls her as the darkest dread.

In her unsheltered solitary state the ordinary dangers of pregnancy and parturition and the puerperium are all aggravated by many degrees. The woman who has become impregnated within the physiological limit is surrounded with all the guarantees for health and safety. She has a nervous system that is calm, or subject only to the exhiliration of anticipated joy, her circulation goes on steadily, or is healthfully stimulated at times to more activity: food, clothing, and every comfort are at her command. She can give due attention to the state of her emunctories. On the other hand, nervous depression, circulatory disturbances, imperfect food and clothing, and frequent contradiction of the ordinary conditions of health are the lot of the woman to whom pregnancy has come outside the limit. Hence the tendency to melancholia, to convulsions and other grave disorders of gestation, and the risks of a higher childbed mortality, and where her life is spared she is more likely to come out of her lying-in-room the subject of disease or damage that might be a source of life-long trouble.

Then when we turn to consider what the chances are to her infant we see that the risk is great of its being still-born, or that it may be delicate or difficult to rear. In France the difference between the still-birth rates respectively of legitimate and illegitimate children is enormous. According to Bertillon the proportion is as 100 to 193. Transgression of the law that requires open recognition of the union between parents almost doubles the mortality of the pregnancy at birth. If we follow

the fate of the living children born of unmarried women we find that whilst in 1,000 legitimate births 35.12 of the infants die in the first week, in 1,000 illegitimate births 63 of the infants die within the week. Within a month the mortality among legitimate children amounts to 74.7 per 1,000, amongst illegitimate to 170 per 1,000, and while the legitimate children have a mortality of 175 per 1,000 in the first year after birth, the mortality of illegitimate children within the same period is 337 per 1,000.

To have determined the kind of marriage relation that is most conducive or successful to propagation does not, however, exhaust the duty of the gynæcologist who is consulted as to the best conditions under which the relation may be entered on. He has to consider further, *e. g.*, the question of

1. *The Marriageable Age.*—Bertillon's tables show that mortality of married males prior to the age of 20 is extremely high. At all the ages beyond, as we have already seen, the marriage relation exerts such a favorable influence on the life conditions that the mortality among the married men is far below that of the bachelors. But on the contrary, when marriage is entered on before the age of twenty it has a prejudicial influence on life and whereas the mortality among unmarried youths between the ages of fifteen and twenty is only 6.89 per 1,000, those who marry under twenty, usually between eighteen and twenty, are at the rate of 51.32 per 1,000. Where among the unmarried youths the mortality is only 14, among the married it amounts to 100. Bertillon believes that the beneficial influence of marriage which is so marked at the age of twenty-five and upwards is "still considerable," "still manifest" and twenty-three, perhaps "still sensible" at twenty-two, but would cease at twenty-one. "Who can object," he asks, "to the conclusion that these early marriages are deadly, that the law which permits them is a snare which the ignorance of the legislator has spread for our youth, and that this bad law should be abrogated?"

The danger of early marriage is not so pronounced in the case of women, and the beneficial influence does not begin to show itself so early as in men. The table shows us that the proportion of deaths per 1,000 for the unmarried between the ages of fifteen and twenty years of age is 7.53, and for the married at the same age 11.86. There is already an improvement between the ages of twenty and twenty-five at which the majority among the unmarried is 8.32, and among the married 9.92. It is the danger of parturition, and especially first labors, that keep up the mortality among married women during their productive life, but we can see that these dangers become attenuated as they advance in years, and the figures show us very distinctly how specially dangerous it is to enter prematurely on the reproductive career. Whilst the relative mortality of spinsters and married women between the ages of twenty and twenty-five years is as 100 to 119, their relative mortality between the ages of fifteen and twenty is as 150 to 158 in France. The proportion in Holland is 100 to 208, so that there a young woman marrying before the age of twenty doubles her chance of death. When we know besides that the products of these early marriages are apt to be more feeble and difficult to rear, and that women who marry early are likely as not to have fewer children, we conclude that it is not advisable for a woman to contract a marriage before the age of twenty. In general terms we may say that after an individual has passed the first septennium of life and has got the permanent teeth, during the second septennium the building up of the system goes on which prepares for the evolution of the several apparatuses. This occupies the third septennium, so that it is only at the age of twenty or twenty-one that the pelvic organs with the associative mammæ are fairly ripened and capable of carrying out their function. And as it has required all these years for the full physical development of the woman, so in her physical training we cannot expect of her at an earlier period to be able clearly to apprehend the relations on which she is entering, and intelligently to face the lofty requirements of motherhood. Of course, in all these data we speak of averages, and in the corporeal and mental development of women we may find diversities in the data of their completion just as there are differences in the date of the eruption of the first teeth in infancy which we would look for at the seventh month, though in some infants they appear earlier and in others later. So we may meet a

wise and well developed woman of eighteen whose marriage we might conscientiously sanction, whilst we might have grave doubts as to its propriety with a giddy girl of thirty. "In women," says Matthew Duncan, "the age of maturity is twenty to twenty-five, in men it is later, probably by at least five years, and you will pardon the interpolation here of the reflection, well worthy of being dwelt on, that this lately ascertained physiological law tallies with the oldest and wisest counsels as to the nubility of men and women, a part of the grand subject of morals and medicine. At this age a woman has the lowest risk of sterility, the greatest likelihood of having healthy children that will long survive, the greatest likelihood of herself surviving childbirth, the lowest risk of having abortions, of having excessive family, of having plural pregnancy and of bringing forth idiots."—*Lancet* 1889.

It is not in the ill effect on the individual that the mistake of premature reproduction appears, but in the imperfect development and low vitality of the products of such unions, evils that show themselves in modified forms again in the children of those too advanced in life. The differences of the two classes are summed up by Dr. Strahan in his recent work on "Marriage and Diseases," as follows:—"The children of *immature* parentage are especially liable to death during infancy from wasting, scrofulous and convulsive affections. They are liable in a remarkable degree to idiocy and imbecility of a low type, and to physical deformities and imperfections. Large numbers of them succumb to tubercular disease about the age of puberty and adolescence, and few of them attain even advanced middle age. The genital organs are ill developed and often deformed, and a great number of them are sterile. They are also notorious for their lack of energy and courage. Hence the class of criminals to which they give the greatest number of recruits is that of thieves and other petty offenders. The children of the *senile* are as a class ugly, small of stature, and stooping, which, together with the absence of subcutaneous fat, gives them a look of old age while still young. Idiocy is less common among them than weak-mindedness, amounting to imbecility, which is often accompanied with more or less perversion of moral feeling, and a plentiful supply of low, deep, cunning. Many of them die between the ages of puberty and adolescence of tubercular diseases, few of them live past middle age, and a great number of them ultimately become insane and criminal. They are nervous, irritable, passionate, and horribly cruel, and are the perpetrators of most of those fiendish barbarities, the recital of which from time to time shocks the civilized world."

2. *Physical bars to marriage.*—Besides the determination of the age of nubility it belongs to the gynæcologist to consider what physical conditions are to be regarded as contra-indications to the marriage relation. Regularity of the menstrual flow may usually be taken as a sign of fitness for procreation, though it may consist with morbid conditions, such, for example, as deformities of the pelvis that would under the process prove dangerous to both mother and child, and that would make it inadvisable for the affected individual to marry. The irregularity or absence of the flow ought always to be taken as a possible indication of the presence of some condition that will inevitably cause an infertile union. Some of the associated conditions may be remedied, such as an imperforate hymen; but we have all seen cases where the marriage knot should never have been tied, of congenital atresia vaginæ, or infantile, or otherwise imperfectly-developed uterus, and the fruitless union has been a mutual disappointment. From such distress the gynæcologist could in almost every instance save the parties if only the people were taught enough of physiology to understand the circumstances that ought to lead them to seek his counsel.

Besides the malformations of the generative apparatus there are other organic defects or constitutional tendencies that ought to make our patients pause before they encounter the risk of reproduction. Dr. Robert Barnes has repeatedly, with characteristic lucidity and vigor, and with abundant wealth of illustration, demonstrated how searchingly a pregnancy will test the vital powers of women, calling out latent tendencies, aggravating already existing disorders, and adding an element of danger to otherwise trifling maladies, and there are some of these, such as recently acquired incompetency of the cardiac valves, especially the aortic, in which to withold the warning as to the dangers

of parturition would be downright cruelty.

In regard to this matter, also, we have not only to keep in mind the consequences to the wife, but to anticipate the influences on the offspring. This opens up the wide field of heredity, which bids us to remember that a woman who is the subject of some infirmity may not only suffer for herself in the reproductive process, but may transmit her weakness to her children. So great is this risk in the case of mental disturbances that Maudsley has said, "If we are seriously minded to check the increase or lessen the production of insanity, it would be necessary to lay down rules to prevent the propagation of a disease which is one of the most hereditary of diseases." Strahan insists that "all men and women who have been insane once, and have a bad family history, those who have been twice insane, even if the family history be good, and all who are confirmed epileptics or drunkards, should be prevented by the State from becoming parents, for," he maintains, "they have no greater right to carry suffering and contamination amongst the people and throw expense upon the State than has the person suffering from small-pox to do so by travelling in a public conveyance." It is not only in the aggravation and propagation of neuroses, such as insanity, epilepsy, drunkenness, idiocy, deaf-mutism, and such-like that we see the ill effects of injudicious unions. They are seen also in the transmission of dangerous diatheses, such as the cancerous, tuberculous, syphilitic, and rheumatic, which are apt to determine the production of children prone to death, all the more if the parents have any close degree of consanguinity, or if they are both in any marked degree the subjects of the diathetic influence.

3. *Regulated Marital Intercourse.*—The gynæcologist has to consider not only what may be the proper age for entrance on the reproductive career and the physical conditions, local or constitutional, that may be an embarrassment or even an actual bar to the process, he has to be ready to indicate the conditions under which it may be healthily carried out. According to Herbert Spencer the progressive evolution of the race proceeds under the varying influences of what he speaks of as individuation and genesis. In the former term he includes all the race-preservative processes by which individual life is completed and maintained; in the latter the processes that go to the formation and perfection of new individuals, and he shows that individuation and genesis vary inversely, genesis decreasing as individuation increases, but not quite so fast, so that progressive evolution in the direction of individuation is associated with a diminishing rate of production. This might at first sight seem to sanction the idea that the married pair might be encouraged to rapid reproduction for the multiplication of the family. But we have to keep in mind what has been indicated by Eddes and Thomson, in their remarkable work on "The Evolution of Sex," that "the survival of a species or family depends not primarily upon quantity, but upon quality. The future is not to the most numerous populations, but to the most individuated." This consideration suggests to us the warning that the pair who would build up a family must see to the production not of many children, but of a moderate number of children, who are more likely to be healthy, and for whose up-bringing they are more likely to be able to provide. The experience of every physician must confirm the authors I have quoted, when they deem it "essential to recognize that the ideal to be sought after is not merely a controlled rate or increase, but regulated lives. Neo-Malthusianism might secure the former by its more or less mechanical methods, and there is no doubt that a limitation of the family would often increase the happiness of the home; but there is danger lest, in removing its result, sexual intemperance become increasingly organic. We would urge, in fact, the necessity of an ethical rather than of a mechanical prudence after marriage, of a temperance recognized to be as binding on husband and wife as chastity on the unmarried. When we consider the inevitable consequences of intemperance, even if the dangers of too large families be avoided, and the possibility of exaggerated sexuality becoming cumulative by inheritance, we cannot help recognising that the intemperate pair are falling toward the ethical level of the harlots and profligates of our streets."

THE DIM AND DISTANT FUTURE.

Gentlemen, if William Hunter's eulogist was rather gallant, than absolutely ac-

curate, in saying that, "the faults of women are the work of men," there is enough of sober truth in the averment to suggest to us the obligation that lies on us, as men as well as gynæcologists, to do our utmost to mitigate the ills that come to women so often from their submission to the stronger sex. As this Society has already done good service in the discovery of means to recognise and remedy the diseases of women, so we are confident it will continue and extend its beneficent operations. But gynæcology and gynæcologists will only have rendered their full service to their subject when they have secured such intelligent apprehension of the laws that regulate the physiology of reproduction, and such implicit obedience to these laws, that a race shall have been evolved that will be independent of their aid. The time is long, and the way far, to such a consummation, but our Society and we ourselves shall only achieve our best while we keep in view the highest of ideals.

A THEORY OF THE FUNCTIONS OF THE SINUSES OF THE FACE, THE CELLS OF THE ETHMOID, AND THE MASTOID APOPHYSIS.

Coüetoux (*Ann. des mal. de l'oreille et du larynx*, xvii,3) gives the following epitome of his views on the above subject: The ethmoid is primarily a respiratory and olfactory organ. The sinuses of the face share in this rôle and later diminish its influence. Olfaction seems to owe its mechanism to the alæ of the nose and the vault of the palate. The ethmoid aids in the formation of the nasal fossæ, and preserves them from the deforming efforts of aspiration in diffusing them. The moist and overheated air which it contains pushes the odoriferous particles toward the convexity of the middle turbinated bone. The sinuses, being developed with the olfactory sense, share with the ethmoid in its functions of diffusing the deforming effects of the negative pressure due to olfactory respiration. In the adult the sinuses leave to the ethmoid the first place. The mastoid cells relieve the tympanic membrane from the deforming effects of the barometric vacuum, which is due not so much to the olfactory respiration from which the narrowing of the eustachian tube already protects it, as to the effects of this narrowing, which coincides with the development of olfactory respiration.

DYSMENORRHŒA AND PAINFUL OVARIES.

By A. E. WARREN, M. D.
GIRARD, OHIO.

The term dysmenorrhœa is generally used as meaning pain before, during, or after menstruation. During my experience I find physicians treating this pain as a symptom with such drugs as antikamnia, phenacetin, and opiates; many physicians become accustomed during their busy period to prescribing indiscriminately, not asking as they should for a cause, but hurriedly giving anything to alleviate pain for the time being.

Let us for a moment refer to some of the causes of dysmenorrhœa which prevails more especially among society girls. The normal menstrual flux is generally accepted as an overflow, and any uneasiness during this period is abnormal, e. g. imagine the os internum closed, either with cicatricial tissue, new growth or a firm spasmodic contraction. This causes a daming back of the normal overflow, a distension and pressure on nerve endings. Menstruation being caused by a change in the lining of uterus, any retention of blood pressing on these already vascular, and irritable tissues causes pain. There also may be atresia of vagina; an imperforate hymen; disease at or near os internum; anything arresting growth of generative organs, retroversions, anteflexions—all these abnormal conditions and malformations cause a backing up and retaining of the normal monthly flow. W. G. Wylie in his article on menstruation, and its disorders (Mann's Gynæcology) says, "A uterine sound that could be passed into a normal uterus without pain, would cause severe aching pain (similar to that of menstruation) if passed into the uterus of a patient suffering from dymenorrhœa." From this we might be led to believe that it was the passing of the secretion over this irritated part that caused the pain, but in a great majority of cases the pain ceases at the appearance of the discharge. Whichever of the above mentioned causes may be operative, the profession, I think, will agree with me when I say obstruction, whether from disease or malformation, is the leading one, and that it is to the treatment of this class of cases I want to draw your attention.

CASE: Miss H., aged eighteen, came to me April 1 suffering with pain in right side over the region of the ovary. This pain dated back one year, she had since the beginning of her first menstrual period four years previous, suffered with dysmenorrhœa so severe that she would be confined to bed two and three days prior to the appearance of the flow; the pain in right side was continuous but exaggerated at each monthly period. At the time Miss H. came to me, five days after her monthly sickness, she was very nervous and somewhat anæmic; her occupation requiring considerable brain work. I had her give up her position, and put her on the following tonic:

℞

Ferri. Red	2.	grammes.
Zinci. Val	2.	grammes.
Acidi. Ars	0.05	grammes.
Strych. Sulph	0.05	grammes.
Quin. Sulph	1.	grammes.

Ft. Capsules xxx.
Sig.—One, three times day.

I told her to return to me ten days prior to next menstrual time. I then ordered a douche, of 120°F, or as hot as she could bear, every day until the flow appeared. I also prescribed on the day previous to the menses capsules every four hours, containing in each, aloin ⅛ gr., ext. ergot ½ gr. The douche, softening, relaxing and causing a congestion; the aloin I prescribed to congest, the ergot to contract. Five days after she returned stating she experienced no pain before or during sickness, but still suffered from pain in the right side, the area of which could be covered with a silver dollar. I decided this was an irritated ovary from long-standing dysmenorrhœa. Absorbent cotton saturated with a solution of ichythol, grammes 8 to glycerine 60, was intoduced into vagina and left three days, and repeated until time to begin douche, which was repeated for the second time. This period passed over without pain, the pain in side ceased; since then the patient has been entirely well. Later I used the same treatment on four other cases, with a complete cure in each case.

COPPER IN ADYNAMIC ANÆMIA.

Luton and Liegeas have found copper (*Prog Med.*) of value as a tonic alterative nervine. Pearson (*Medical Standard*, Feb., 1892) points that in adynamia, a kind of nervous asthenia, copper is of value, as it stimulates the cardiac and capillary circulation and acts as a nervine tonic.

Society Reports.

CLINICAL SOCIETY, OF LOUISVILLE.

Stated Meeting June 21, 1892

DR. J. M. MATHEWS, president *pro tem*, in the Chair.

CASE OF OVARIAN TUMOR.

DR. W. O. ROBERTS: The patient from whom this specimen was removed is in her sixties—sixty-two or sixty-three, does not know her exact age; she is an exceedingly fat woman. There have been removed from this patient at different times, four tumors from the breast. I removed the last one, which was eighteen years ago; examination showed it to be a malignant growth; there has been no recurrence. About three years ago she had an umbilical hernia a portion of which was irreducible and gave her a great deal of pain. I operated upon it and found the irreducible portion to be omentum, which was tied off and the opening closed. She got along without any trouble for a year, then there was a recurrence of the hernia and I operated again with the same result. The hernia recurred again and grew rapidly, so that at the time of the last operation, a few days ago, it was nearly as large as a hat crown. When I cut down upon it I found the intestines, especially the large intestine, adherent so that it was with some difficulty I was able to detach it. After it became detached she had a violent vomiting spell, and a large amount of intestine protruded through the opening. In replacing the intestines my hand came in contact with a solid body, and upon examination it proved to be an ovarian tumor, which was removed. It was a simple multilocular tumor, the largest cyst of which was tapped, and I suppose about a quart of fluid came out of it, a thin gelatinous fluid; you will notice there are several smaller cysts. This tumor was not suspected prior to the operation for hernia, and but for the fact of the patient vomiting and expelling the intestines through the opening, I suppose it would not have been detected during the operation.

TUMOR OF THE BLADDER.

I also have a tumor which has already been exhibited to one of the Medical Soci-

eties, but as it and the history of the case is of considerable interest, and as there is a very important point in connection with the case that has come up since report was made to that society, I would like to again mention it: The patient from whom the tumor was removed is a man fifty-seven years, of age, and a patient of Dr. Palmer's. He had been troubled for some months with frequent and difficult micturition and last January became unable to urinate at all, so that a catheter had to be used. I saw him in March and up to that time he had been unable to void his urine, catheter had to be used sometimes every half hour during the day and very frequently at night, his urine was loaded with pus. We made an examination under chloroform, found no stone but there was some little difficulty in getting into his bladder and we were under the impression that he had an enlarged middle lobe, the lateral lobes did not seem to be at all enlarged, He He was put on boric acid internally and locally, and he returned to the city about the middle of May very much improved as regards the condition of his water, also as to the frequency of need to use the catheter. He would go from two, to three hours without using the catheter. We advised a suprapubic cystotomy, which operation was done at the Norton Infirmary. When we reached the interior of the bladder, we found a tumor about as large as the first joint of your finger, that completely closed up the neck of the bladder. It was a pedunculated growth. I caught it with forceps and in pulling it tore off a considerable sized piece, and then afterward picked it off little bits at a time until it was entirely removed. After the operation I used the kind of drainage tube which is used by Keyes, of New York, whether it is his original idea, or not, I do not know but it is an excellent tube. This man remained in the hospital I think for two weeks, possibly a little longer. When he left for his home the urine was still being passed through the abdominal wound. The drainage tube was taken out, or rather it came out in an effort to vomit, and in attempting to replace the tube it gave him so much pain I desisted and finally concluded to leave it out altogether and see whether or not after closure of the wound he would be able to void his urine the natural way. He returned to his home as I said about two weeks after the operation, and a day or two ago I received a letter from Dr. Palmer which was written by the patient's son, a doctor, graduate of Jefferson College, under date of June 16th, a little over a month after the operation, as follows: "My father is doing very well indeed, the wound is almost closed, passes urine the natural way with but little leakage through the abdominal wound, then only when he is urinating. Has to get up only a few times at night to empty his bladder. There is still some pus in the urine. He passes urine with sufficient force to throw it at least three feet from him."

I think this is of great interest in view of the man having had retention of the urine for so long a time.

DR. S. FLEXNER: (of Johns-Hopkins Hospital Baltimore) I would like to ask Dr. Roberts whether this tumor did not spring from the inside of the bladder. I understand it has not yet been examined. The commonest form of tumor springing from the mucous membrane of the bladder is the papilloma. This does not appear to be a papilloma. I think it would be very desirable to have an examination made so as to know the exact nature of the tumor.

DR. W. C. DUGAN: Was there any serious hæmorrhage at the time of operation, and if so how was it controlled?

DR. W. O. ROBERTS: The hæmorrhage was very slight; I used only hot water.

PUERPERAL TETANUS.

DR. J. W. IRWIN: The patient of whom I shall speak was not quite seventeen years of age. She was sent to me from another city. I saw her for the first time in January, 1892. She had reached the ninth month of utero-gestation with her first child. She was of medium height, strong and healthy, of dark complexion and weighed 130 pounds. Her previous history did not reveal any hereditary nervous or mental disorders, or troubles of any kind. The organs of digestion were in a healthy condition, there was no œdema, the kidneys were found to be free from disease. On February 13th at full term she gave birth to a female child which weighed seven and one-half pounds. The labor lasted nine hours and was less severe than is usually the case in primiparæ. The amniotic fluid was not excessive in quantity, and the abdomen was unusually enlarged. The placenta came away eighteen minutes after the birth of the child. Very little

hæmorrhage occurred. All clots and shreds of membranes were carefully and thoroughly removed. The vaginal tissues were found to be free from abrasions and there was no laceration of the neck of the womb. The patient had not been exhausted by the labor.

Thirty minutes after the birth of the child the patient became very weak and faint, and the action of the heart grew slow and feeble. Evidence of internal hæmorrhage was sought for and none found. The patient's head was then lowered beyond the horizontal line of the body but the alarming condition continued for fully forty minutes. My esteemed friend, Dr. Washen, was sent for to see the case in consultation, but, on his arrival, the patient was revived. A careful examination of the case failed to discover the cause of the alarming symptoms. There was no cardiac disorder and the kidneys were found to be free from disease. The patient had been well nourished and had not been exposed to cold or dampness.

From this time the patient did not have a symptom indicating any disturbance until on the morning of February 24th, or eleven days after her confinement, when she felt a choking sensation in the throat and a fulness about the jaws. She had pain in the back and the head was drawn slightly backward. There was a sense of tightness around the waist and in the chest. She complained of a tremulous feeling and at the same time the body was drenched with perspiration. On the night of February 24th, the patient did not sleep owing to severe paroxysms of pain in the back, which at times encircled the body. On the morning of February twenty-fifth, the jaws had almost closed. Barring an occasional attack of trembling in the masseter muscles, the muscular contractions about the face were permanent. The muscles of the back, chest and abdomen were firmly contracted and accompanied by a feeling of suffocation. Respiration was irregular and only twelve to the minute. The lochia was unaffected. The axillary temperature was 102½° F. The urine was scanty and of a dark brown color and it did not contain albumin. Pain in the back and chest was continued but it was more severe in paroxysms. There was much hyperæsthesia present and exposure to temperature of 70 degrees caused the patient great discomfort. The bowels were sluggish but small doses of saline laxatives caused free movements.

The expression of the patient, as well as her general condition, showed that something more severe than an ordinary fever had attacked her. The face wore the expression of intense suffering. The occipito-frontalis muscle was contracted tightly, which caused the flesh and skin over the forehead to stand out in numerous hard bunches, between which were deep fissures running in every direction. The brows were drawn downward and inward which gave to the eyes a sunken appearance. The muscles of the nose, cheeks, lips and chin were in a state of contraction like those of the forehead. The wings of the nose were drawn outward and upward, which gave to that organ a flattened appearance. The eyes were suffused and the lids were so much contracted as to cause the impression that they were too short to cover the balls.

On February 27th at nine A. M. the temperature was 100⅘° F., pulse 124, weak and irregular; at nine P. M. temperature 101½° F., pulse 130 and feeble. Perspiration now occurred in paroxysms and after severe attacks of pain. Hyperæsthesia was more felt. Pain and contractions of the muscles of the back were more severe at night. Frequent paroxysms of nervous trembling attended by copious perspiration prevented her sleeping. February 27th at nine A. M. pulse 129, respiration 16 and irregular, temperature 100° F., at nine P. M. temperature 101½° F., pulse still irregular and feeble and patient on attempting to move or turn in the bed had attacks of pain accompanied by opposthotonus. From this time until March 16th the condition of the patient remained practically unchanged. Twice within the previous sixteen days the patient's temperature fell to 96°. F. in the morning, but as evening approached it went up to 99° and 100° F. At no time during the course of the disease did the patient's temperature exceed 102½° F., and this occurred once only, at the beginning of the attack. The temperature usually ranged between 99° and 100° F. The pulse varied very much in number and character, at times 108 and 160, irregular, and quite feeble.

On March 16th the jaws became

relaxed and the mouth could be opened without much effort to the extent of admitting the handle of a spoon.

The muscles of the chest and back had become relaxed and the paroxysmal contractions occurred less frequently. Pain was not as constant. At the end of six weeks from the beginning of the attack the patient was allowed to return to her home. A letter was received from her bearing date of April 14th saying that she was entirely well.

The treatment of this patient, owing to the fixed condition of the jaws, presented some difficulties but the absence of an upper molar tooth made the task much easier than it otherwise might have been. The act of swallowing was difficult and painful and occasionally fluids escaped through the nose, The diet consisted of milk, consomme, liquid peptonoids, and strained soups. To this was added from six to eight ounces of whiskey daily. The hypodermic use of one-half grain doses of sulphate of morphia as occasion required for relief of pain, was found to be servicable. Insomnia was a troublesome concomitant of the disease, and this condition I found to yield to twenty grain doses of the hydrate of chloral, every second hour, better than to any other remedy. Sulphonal and chloralamide were given without any effect.

Later in the disease a mild, continuous current of electricity was applied to the spine, but as it caused too much pain, its use was abandoned.

Iron and quinine were given in tonic doses with apparently good effect.

From the description of the case I have just given, it will be observed as one of those rare affections following parturition, known as puerperal tetanus. In looking over the literature on this disease, I find that many obstetricians have never seen a case of puerperal tetanus. In Galabin's Midwifery, page 698, I find the following statement: "Puerperal tetanus is extremely rare, (in Great Britian), no instance of it occurred in 47,089 cases in Guy's Hospital Lying-in Charity."

From every source, including the carefully collected cases of Dr. Garrigues published in the *American Journal of Obstetrics*, volume 15, page 769, I find only thirty-two instances recorded as having occurred after full term in Europe and America during the last one-hundred years. Currie reported to the Medical Society of London the first case in 1792.

The disease occurs more frequently in hot countries and the mortality is very great. Parvin's Obstetrics, page 598, gives the mortality in hot countries as 80$\frac{1}{10}$ per cent. The mortality in Europe and America in cases occurring after parturition at full term is 84$\frac{1}{10}$ per cent. These remarks do not apply to tetanus occurring after abortion, for, in such cases, the mortality is even greater. Twenty-eight recorded cases of tetanus following abortion show a mortality of 92$\frac{1}{10}$ per cent.

Until within the last few years the cause of this terrible disease was thought to be difficult labor, the retention of membranes in the womb, nervous excitement, mental distress, and exposure to cold and dampness. Climate, it was thought, conduced much to the number of its victims.

In 1885 Nicolaier discovered the cause of tetanus to be a bacillus which corresponded to the Koch bacillus of the septicæmia of mice, which is especially found in horse dung. Rosenbach, in 1886 confirmed the discovery of Nicolaier and from their combined evidence, the disease, it is now believed, is infectious in character, and communicated chiefly from horse dung.

DR. J. A. OUCHTERLONY: The paper read by Dr. Irwin is extremely interesting, not only because of the rarity of the disease, but because of the fortunate issue. The best resumé of puerperal tetanus or tetanus occuring in connection with abortion, labor and in non-puerperal state in woman that I have ever read is that of Prof. Simpson, which is found in his miscellaneous works. He reports quite a number of cases as having occurred, not only in connection with labor at full term, but also after abortion. A very interesting report of a case that he gives is that of a woman who had an intra-uterine polypus. He describes it, if I mistake not, as a cellular polypus, that it was extending into the vagina and came away almost without any effort at assistance, so that there was no damage done to the parts by surgical procedure; that a few days after the exit of the polypus, tetanus developed and the woman died. The number of cases of abortion followed by tetanus that Simpson reports is quite considerable in view of the rarity of the disease. In the cases that occurred after

labor, my recollection is that it was observed quite as frequently in women who had not particularly hard labor, and where there had been no instrumental interference.

The only point I want to call attention to is one relating to the prognosis: Whenever the disease lasts longer than four or five days, it usually terminates in recovery, so that if you can tide the patient over the first five or six days, the probability of recovery greatly increases.

In thinking over the subject it has often puzzled me how to account for tetanus in puerperal women who have seemingly been entirely free from any exposure to what is now considered the cause of the disease, namely the peculiar bacillus. I have studied a number of reports of cases and must confess it was very difficult for me to see how the infection had taken place. The same difficulty, however, is encountered when we try to explain the occurrence of tetanus as an endemic disease. There is what is called idiopathic-tetanus, and it is just as difficult to understand how the infection occurred then. Of course the same thing is true in regard to a number of other infectious diseases. I have never seen a case of puerperal-tetanus.

Dr. S. Flexner: I have been very much interested in Dr. Irwin's report. I have never myself seen a case of puerperal tetanus, and only wish to say a few words with reference to the peculiar bacilli causing the disease. The recent work of Kitasato on tetanus, which is too recent to have appeared in the authorities quoted here this evening, indicated that the *several* organisms originally considered to be the cause of the disease, are not the cause, but that it is caused by a *single* organism. A great deal of difficulty has been met with in the study of tetanus from a bacteriological standpoint, because of the fact that the peculiar bacillus does not grow under ordinary circumstances, but requires the exclusion of oxygen. It will grow in an atmosphere of some other gas than oxygen, hydrogen usually being used to replace the oxygen, and it is hence an anaerobic organism. On account of this peculiarity, the bacillus of tetanus is not as easily separated as other germs which grow in the presence of oxygen. The method introduced by Kitasato consists of heating a culture which contains the bacillus of tetanus mixed with other things, to a temperature at which all of the vegetative organisms are destroyed, and, under which circumstances the tetanus-germ gives rise to spores which resist this temperature and may be grown out into form of tetanus-bacilli. The organisms of tetanus have been found in the earth, commonly about stables, often in gardens and tend to grow in particular localities; for instance, certain portions of Long Island are noted from the fact of the development of tetanus following injury in great regularity. With reference to the occurrence of idiopathic-tetanus to which Dr. Ouchterlony referred in his remarks, I cannot help considering that Dr. Irwin's example is hardly one of that class. It seems to me that the case Dr. Irwin reports must be considered as one of the traumatic variety, as the act of parturition itself suffices to produce a lesion which can in some manner become infected. As to the mode of infection—the hands and instruments have to be considered. The danger of infection through the air, while not totally excluded, perhaps, is not nearly so great as the former. The peculiar organisms of tetanus are now known to develop only locally at the seat of the injury; they never invade the blood and tissues, but produce a poison known as the tox-albumin of tetanus which gives rise to the constitutional effects of the disease. The fact of the local development of the organisms indicates to us where antiseptic measures are to be applied, and, moreover, the source of danger in carrying the infection from one to another. It is to be emphasized that all the secretions from the affected part, are to be thoroughly disinfected.

Dr. A. M. Vance: I would like to ask if anybody has any information concerning the contagious nature of tetanus. I ask this question for the reason that some time ago I saw a case which seemed to prove conclusively that it is contagious. In this instance a drainage tube was used on a patient suffering with tetanus, and afterward used on another patient who developed tetanus and died in nine days. I think I had the same year seven or eight cases of tetanus. I am inclined to believe that very often these cases can be traced to cases that have gone before in the same neighborhood, in the same house, etc.

DR. J. G. CECIL: I have never seen a case of tetanus in the puerperal state. Some time ago, however, I had occasion to look the subject up and was very much interested in it, especially on account of its rarity and its pathology. Many cases, I think, that are otherwise obscure might be traced to the dust of the street. However, I cannot see how the case reported by Dr. Irwin could have been infected from this source. I would rather consider it a case of traumatic instead of idiopathic tetanus I believe that in every woman no matter how complete and easy the delivery, the genital tract is sufficiently abraded and wounded to afford opportunity for the absorption of material, septic and otherwise.

DR. I. N. BLOOM: The micro-organism theory of tetanus was very well established in an instance I recall, where there was a large stable in the vicinity. There had been on an average from ten to fifteen deaths from tetanus in that immediate locality per year. Afterward the stable was thoroughly overhauled and disinfected, and there was but one death from tetanus in a year; after that period for a year or two there was not a case of tetanus, showing the benefits derived from asepsis also proving almost conclusively the theory regarding the origin of tetanus.

DR. J. W. IRWIN: I have very little to say further on the subject, excepting as to the prognosis. Dr. Ouchterlony has mentioned as a fact that if the patient survived four or five days the chances for recovery were greater. I think the most important point touching upon the question of prognosis, is the time at which the patient is attacked by the disease. If the tetanus comes on late after the traumatism, the patient has very much better chances for recovery than when it comes on earlier. In the case I have reported, the disease made its appearance on the eleventh day.

In regard to the question of disinfection: The patient had her own nurse which she brought with her from another city,—a trained, accomplished woman. She made use of a disinfectant solution of carbolic acid and boric acid—about five per cent. of pure carbolic acid in a saturated solution of boric acid. She always washed her hands in this solution after coming in contact with the patient in any way. The water for ablution was always boiled and some of the solution always added to it before being used. No internal washing was practiced, no syringe used for any purpose. In attending the woman, I used carbolated vaseline after first washing my hands in the water and solution above referred to. The patient was confined in a fine, elegantly-furnished house, on the first floor, second room from the front. There was no horse-stable on the place. There was a vacant lot on one side of the house, and plenty of ventilation and plenty of pure air. The house stood within about ten feet of the sidewalk. The street in front of the house was paved with granite, and of course there was a great deal of travel backward and forward over the street. If she took the disease from horse-dung, it is evident that it was deposited on the street and carried by the wind into her room.

Concerning the infection in this case from any other cause: I have not attended a case of tetanus before in eight years, and never before have seen a case of tetanus following parturition. This is the first case in my experience, and I hope it will be the last, although the results are far more encouraging than I had hoped for. I do not think with Dr. Ouchterlony that this was a case of idiopathic tetanus, and I have classed it as traumatic tetanus, the act of labor itself being the cause of the traumatism. No case could have been attended any better so far as antiseptics are concerned, than the case I have mentioned. To show that the patient is entirely well, I will read a portion of a letter recently from her: "I am overjoyed to tell you that I am entirely well and look just as girlish as ever. I will never forget you for your kindness."

DR. J. A. OUCHTERLONY: It seems to me that the subject is very much like that of erysipelas. The general belief is that erysipelas is always produced by infection through some abraded surface, and it is very likely the so-called cases of idiopathic tetanus are those in which we have not been able to establish the assistance of trauma, it is possible, however, that it may exist. Of course parturition places woman in a condition most favorable to infection, the abraded surface of the uterus constituting the surgical condition.

SPECIMEN OF OVARIAN CYST.

DR. L. S. MCMURTRY: I wish to exhibit a specimen of ovarian cyst, which is not of special interest excepting as a speci

men. Its walls as you will observe are very thin, and I deem myself fortunate in being able to remove it without rupture. The patient from whom this cyst was removed had suffered a miscarriage, and following it had an acute attack of pelvic peritonitis lasting for several weeks. The tumor was found in Douglas' space immediately to the left of the uterus. The left fallopian tube was found to be in a diseased condition, and was also removed. The tumor was but slightly adherent and was detached without difficulty.

DR. W. C. DUGAN: This case is very interesting to me owing to the fact that I operated upon one similar to it only a few days ago.

DR. A. M. VANCE: About a year ago in September I saw first a little boy about ten years of age, and diagnosticated suppurative disease of the hip. The case came under my treatment and ran a very rapid course. There was an abscess and evidences of excessive bone disease. The patient was put in the Children's Hospital three months ago, and the abscess opened and irrigated. At the time the abscess was opened, I spoke of there being very little tissue between the femoral artery and the abscess cavity, and we therefore used no drainage tube for fear sloughing would take place. The boy up to that time had been having a high fever. A few days after this I had a telephone message to come to the Hospital at once, that the patient was bleeding; I told the nurse to put her thumb on the artery at the pubic bone, and hold it until I could reach there. I found upon arrival at the hospital that the femoral artery had ruptured, the boy having lost a great quantity of blood. The vessel was tied by candle light and the limb wrapped in cotton wool and elevated. Gangrene however was present at the end of forty-eight hours and notwithstanding the patient's temperature was 104° and pulse beyond counting, amputation was decided upon. I think Dr. Guest remarked when the boy was on the table that the pulse was, according to his count 170 per minute; that is, he counted a quarter and it amounted to 170 for a minute. Dr. Dugan saw the case in consultation and we decided that there was about one chance in a thousand of saving the boy's life by amputation at the hip. This was done and the time consumed in the operation, from the time the patient was gotten ready until he was taken to another room after the dressings were applied, was about nine minutes.

The boy has about gotten well; I will state that the femur was very much involved, probably about four inches; the acetabulum was also involved; I did not take time to clean it hoping that nature would do so. I believe that if this patient had been kept on the table a few seconds longer he would have succumbed. The child would have died at the time of the hæmorrhage had the nurse not had the courage to have held the artery.

DR. W. O. ROBERTS: I would like to ask Dr. Vance if there was any hæmorrhage at time of the operation.

DR. A. M. VANCE: There was very little hæmorrhage during the operation.

CASES OF BRAIN GROWTH.

DR. W. CHEATHAM: I wish to simply mention that I have seen three cases of brain growth within two weeks. One case in which a woman had hemiopia; she discovered on waking in the morning that she could not see her child lying on her left arm. The left half of each field gone, the result of brain growth.

SUN-STROKE.

DR. I. N. BLOOM: At the Galt House about a week ago I was called to see one of the workmen who had been sun-struck. I took his temperature and found it registered 109°F. I have brought the thermometer here this evening to exhibit, and you will see it still registers 109°. I had the man wrapped in ice as I understand this to be the most rational treatment for sun-stroke, but the temperature never lowered and he died a short time afterward.

I also want to state that the case of scleroderma I exhibited at the meeting of this Society several months ago, remains exactly as it was at that time, except that all of the rose colored spots visible then have entirely disappeared. I see the case every month or so.

DR. W. O. ROBERTS: I saw a case of sun-stroke several years ago which I reported in the *Medical News*. We attempted to take the temperature and the mercury went up to the top of the thermometer 113½° F. in about two minutes. It was a question as to how high it would have gone had the thermometer been longer.

DR. J. G. CECIL: The report of Dr. Bloom's case calls to mind one that I have recently seen, an invalid child having spinal trouble, which developed into acute spinal meningitis. The temperature was taken on the third day of the acute illness and registered 108½° F. The patient died on the third day of the illness.

CASES OF TYPHOID FEVER WITH VERY HIGH TEMPERATURE.

DR. J. W. IRWIN: Thirteen years ago I attended two cases of typhoid fever, a boy about nine years of age and a girl eleven, both had temperature of 109¼° F. It did not last long, however, in the boy two and a-half hours, and in the girl three hours. The elevation of temperature came on about the fourth week of the disease in both cases. It came on simultaneously; the children were both members of the same family, and sick at the same time. The heat of the body seemed to be so great that the muscles quivered like the quiver observed in beef after it is skinned. Both of the children recovered.

Concerning the suggestion made by Dr. Bloom, that ice is probably the most rational treatment of sun-stroke, I think Dr. Wood has pretty thoroughly established the fact that there is nothing equal to water. He prefers hydrant water at first to ice, and says it ought to be poured on in a continuous stream, and, furthermore, that it should be long continued, the ice chills too rapidly. There is great danger in reducing the temperature too quickly in cases of sun-stroke, owing to the partially coagulated state of the blood from the sudden heat. The sudden change in temperature by ice might cause death, while the application of cold water at first might be beneficial. I have seen a number of cases of sun stroke where the temperature was 107° and 108°, yet the patient recovered, but it was only after a great amount of perserverance. I have seen one case where the blood would not flow even though there had been made application of cold water. I think to be of benefit in these cases, the application of water should be continued for several hours after the patiant has begun to improve.

DR. L. S. MCMURTRY: I would like to ask, for information, if it is not true that in sun-stroke the blood will not coagulate at all, as it would do under other conditions. I have seen this statement somewhere.

Selected Formulæ.

THE TREATMENT OF LEUCORRHŒA.

The following solutions are recommended in the treatment of leucorrhœa by Gallois, according to the *Jour. de Médecin de Paris*:

℞ Sulphate of copper,.....gr. xv.
Water.....℥ viii. M.
Sig.—Make a solution, and use as an injection in chronic leucorrhœa.

Prescribe at the same time ferruginous preparations, internally, and baths.

Another formula which is useful is:

℞ Salicylic acid.....gr. xc.
Glycerin.....℥iv.
Water.....Oii. M.
Sig.—Dissolve the salicylic acid in the glycerin by the aid of heat, and add water.

This amount is used in six injections, one being given each day in vaginitis, due to irritation or inflammation about the uterus and vulva.

Still another formula is one containing:

℞ Chlorate of potassium.....℥iv.
Wine of opium.....℥iiss.
Tar-water.....Oi. M.
Sig.—Make a solution, and in a half a pint of hot water place two or three large tablespoonfuls of this solution, and, after mixing thoroughly, employ as an injection in fetid leucorrhœa.

As an astringent injection the following may be employed:

℞ Powdered catechu.
Powdered myrrh.....ää gr. lxxv.
Lime-water.....℥xiii. M.
Sig.—Filter after prolonged maceration.

Give this injection several times a day, as long as the necessity continues, or the following may be employed:

℞ Chlorate of potassium.....℥i to ℥ii.
Wine of opium.....℥iiss.
Tar-water.....℥viii. M.
Sig.—Make a solution, and add two or three dessert-spoonfuls to a quart of hot water, employing as an injection night and morning, particularly in cases of leucorrhœa associated with endometritis, polyps, or fibroids. The duration of the injection should be about five to six minutes.

In cases of leucorrhœa or vulvitis, occuring in young girls in which there is no true vaginitis or metritis, the local treatment and the inflammation about the vulva is to be combated. This treatment is both local and general. The parts are to be washed carefully with astringent decoctions or with a weak solution of Goulard's extract. After this has been

done, the washing may be carried out by weak solutions of bichloride of mercury and by baths and lotions.

In other cases, carbolic acid, in the strength of 5 parts to 1000 of water, may be employed; and, finally, in obstinate cases, a solution of nitrate of silver, in the strength of 3 grains to the ounce, may be resorted to. In the intervals between the bathings, the parts are to be separated by lint impregnated with a weak solution of carbolic acid, or covered with red precipitate ointment. The internal medication consists in the use of cod-liver oil with quinine, or, in scrofulous children, the use of arsenical preparations. In place of these lotions, leucorrhœa may be treated by powders, such as the following:

℞ Powdered starch.....3ii.
Subnitrate of bismuth.....3iiss.
Sig.—Mix very thoroughly, and dust the vagina with this powder.

In cases where good results do not follow the use of starch, powdered acetate of lead or tannin may be used, provided care is taken that they are pure. Frequently this treatment is useful after the the injections above named have been employed. With this treatment the following prescription in given internally:

℞ Powdered sulphate of iron.....3ii.
Subcarbonate of iron.....3iii.
Powdered red cinchona bark.....3i.
Pulverized cinnamon.....3i.
Ergotine.....3i.

A small pinch of this powder may be given with the principal meals, and is particularly useful at the approach of the menstrual epochs. Prolonged injections, morning and night, of cold water, to which has been added a little vinegar, may also be advisable

In cases of gonorrhœal vaginitis the discharge may be stopped by the following:

℞ Tannic acid.....3vii.
Water.....3iv. M.
Sig.—Make a solution, and by the aid of the speculum introduce two tampons saturated with this solution.

If needed, a third tampon may be inserted. After twenty-four hours these tampons may be removed and cleansing injections employed, after which other tampons may be employed. Rest in bed is to be strennously advised.

In other cases a solution made up as follows will be equally advantageous:

℞ Carbolic acid.....gr. xv.
Alcohol or cologne.....3i.
Water.....3iss.
Sig.—Mix, and by the aid of the speculum once or twice a day insert tampons wet in this solution and practice astringent injections.

Sometimes it will be found necessary to use other tampons in place of those wet with alcohol and carbolic acid, particularly if a detergent influence is required, such as follows:

℞ Tannic acid.....gr. ss.
Pure glycerin.....3iii.

It is worthy of notice that in vaginal injections in cases of leucorrhœa it is necessary to employ large quantities of liquid.—*Ther. Gazette.*

REMOVAL OF A CALCULUS FROM THE VERMIFORM APPENDIX; RECOVERY.

Pinnock reports (*Australian Med. Jour.*, vol. xiv. No. 1) the case of a man, aged nineteen years, who was suffering from the usual symptoms of perityphlitis. Belladonna was applied externally and administered internally, and under this treatment the patient improved for some days, but became worse again, having obstinate constipation and vomiting matter with a fæcal odor. An exploratory operation was decided upon. This was done seventeen days after the beginning of the illness. The incision was made in the linea-alba large enough to admit the hand. Numerous adhesions were encountered, and a small cupful of pus and a quantity of fæces were evacuated. The vermiform appendix was found bound down by adhesions. It was found to contain a calculus, which was removed. A glass drainage-tube was inserted, and the wound closed with deep silver-wire and superficial horse-hair sutures. At the end of fifty hours a rubber tube was substituted for the glass one.

The calculus weighed fourteen grains, measuring half an inch in diameter and six-sixteenths of an inch in thickness. It was formed of phosphate of lime, and was arranged in concentric layers.

Reference is made to two similar cases, recorded by other observers.

Of 125 cases of ulceration of the appendix examined by Fenwick, a concretion, mass of fæces, or other foreign body was found in but fifty-five. In forty-seven of these, twenty-eight were concretions, fourteen hardened fæces, and five seeds or shell. In 200 dissections, Ferguson, of Toronto, found foreign bodies in the appendix fifteen times.—*Amer. Jour. Med. Sci.*

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Leading Articles.

ANNOUNCEMENT.

Owing to the increasing pressure of other work, Dr. Reichert finds it necessary to discontinue his editorial connection with the REPORTER. He desires to express his hearty thanks to the readers of the REPORTER for the many manifestations of their appreciation of his efforts to improve the journal and for their invaluable co-operation.

THE THERAPY OF DIPHTHERIA.

In a comparatively recent number of the REPORTER, in an article on the subject of blood-letting in pneumonia, that praiseworthy and veteran investigator, Dr. Hiram Corson, made use of the following remark, "Experience is a harmful thing as a reason for continuing to practice a certain course, unless it has been successful experience." We certainly agree with Dr. Corson.

The average practitioner, especially if he cannot or will not take the time for new and original researches, is very prone to fall into a certain rut, out of which it is almost impossible to remove him. Nearly every physician of this class has his favorite cough mixture, his favorite prescription for diarrhœa, etc., and as years roll on and newer and more efficient drugs appear upon the market, we find him still plodding along in the old path which is "good enough" for him, and meeting many failures as well as occasional successes with stoical resignation. His "experiences" lay in one direction, and he would not deign to adopt another course.

Not very long ago, a physician is said to have asked a colleague for a good remedy for catarrh—it was cheerfuly given. "But how do you know it is good," was asked, "have you had any experience with it?" "Why certainly," was the prompt reply, "I have had catarrh

for the last ten years myself, and have used nothing else."

This sort of "experience," is, however, not confined to the busy practitioner who lives a decade or so back, as far as his practice of medicine is concerned, but many able and thinking men fall into similar ruts, and stay there until they are literally hurled out by the flood of new and improved ideas that are forced upon them.

We need not go far for examples—one of the most eminent surgeons of the day, a man whose profound knowledge and exhaustive writings are recognized the world over, was years before finally embracing, even in a measure, the principles of antisepsis. His "experience" was in another direction, and hence the difficulty.

We must thank Löffler for having demonstrated the biological, morphological and pathogenic properties of a bacillus which has been proven to be the exciting cause of a number of diphtheritic diseases. In other cases this bacillus is not found, but bacteriological examination reveals the presence of the streptococcus as the exciting factor.

The severity and course of this disease is largely dependant upon the exciting microbe. The clinical picture, however, which meets our view when either of these germs are present is so similar in the first stages of their growth, that the differential diagnosis can only be definitely determined by a careful bacteriological examination.

If we class under the name "diphtheria" only that condition so dreaded where the choking of the child is imminent, then only Löffler's bacillus can be regarded as the ætiological factor. The symptomatic picture is such that we cannot but agree with Löffler in speaking of this form of the disease as the "true diphtheria" in opposition to the variety caused by the streptococcus. The latter Löffler speaks of us as "pseudo-diphtheria."

Both affections differ materially in their reaction towards various therapeutic measures. It has been the pseudo- or streptococcus diphtheria that has afforded us so many purported cures for diphtheria.

In the beginning of the diseases, as has been said, it is frequently difficult, and often impossible to clinically differentiate the two forms, only a bacteriological culture will do this. An apparently harmless process, confined entirely to the tonsils, and primarily only accompanied by a slight elevation of temperature, and with but little alteration in the patient's general condition, may develop within twenty-four to forty-eight hours into a severe case of true diphtheria; while, on the contrary, a process which at the outset is apparently most acute, may prove itself to be caused by the streptococcus and be easily cured by therapeutic measures.

Arguing from the fact that where guinea-pigs are inoculated with the bacillus of diphtheria, in spite of the severe pathological changes of the kidneys and pleural cavities, no bacilli are found in the internal organs, Löffler has concluded that these bacilli must produce a poison which is most deleterious to the organism. He has been able to isolate this poison, and his discovery has since been confirmed by Roux and Jersin as well as Kolisko and Paltauf. Later Brieger and C. Fränkel have shown that this poisonous substance belongs to the albuminoids. This substance prominent for its poisonous properties, undoubtedly plays a most important part in diphtheria.

While the bacilli of diphtheria seldom enter the circulation, yet through their growth in the fauces and thereabouts they open a way of entrance to the blood-vessels for other microörganisms, especially streptococci, by means of the necrosis of the epithelium which they produce, and these in turn increase in the organism, and tend to greatly complicate the disease.

The successful therapy of diphtheria

must answer three distinct requirements. First, it must directly influence the life of the bacilli and check their growth. In doing this it also prevents a further formation of the poison they produce. Second, it must check the action of the poison already absorbed into the system. Third, it must prevent the invasion of other micro-organisms, or if already present, destroy them. According to Professor Strübing, of Leipwald, in an article on this subject in the *Duetsche Medicinische Wochenschrift*, these ideal requirements can be realized by the use of a combined local and general treatment of the disease.

We, however, know of no remedy which will with certainty annul the action of the diphtheritic poison in the system. We are equally uncertain of being able to destroy other micro-organisms which have been absorbed. We must, therefore, strive to check the development of the diphtheritic bacillus, and to prevent the invasion of other germs. In a patient, however, who has for some time been under the influence of the diphtheritic poison, it cannot be expected to gain as much by any local treatment as when the disease is taken at its first appearance. In favorable cases we can succeed by local treatment in closing the doors against these enemies of the human organism, but the success of such a treatment depends upon the earliness with which the treatment is instituted. The vast importance, therefore, of the early diagnosis of diphtheria cannot be over-estimated.

Apart from this, in the more advanced cases, the substances generally used in the local treatment must, to occasion any benefit, be used in such quantities as endanger poisoning. It has been said by some that all local treatment is worthless, since the diphtheritic membrane continues to form anew. This new formation is, however, caused by an internal process of the disease.

The diphtheritic disease of the mucous membrane first causes necrosis of the epithelium, and then an alteration of the vessels of the mucous membrane, the latter then discharge a fluid exudate, which forms the false membrane. This formation of pseudo-membrane continues after the death of the bacilli, and as long as any of the previously formed poison remains in the mucous membranes. Not until the change of the vessels of the mucous membrane has disappeared and the epithelium again becomes normal does the formation of false membrane cease.

If these membranes are removed mechanically, one must be careful not to leave the wound thus caused in a condition which might facilitate the ingress of other micro-organisms; that is to say, one must keep the mucous membrane of the throat constantly under the influence of substances which will antagonize such germs. The removal of the false-membrane is, however, not an absolutely necessary measure, since the bacilli are usually in the upper layer of the membrane, and substances locally applied easily penetrate it. The chances for recovery are better the thinner, that is the younger, the membrane.

Upon these principles Strübing has instituted a treatment which he has applied to a whole series of cases. For the local treatment he has used alternately applications of iodo-phenol and liquor of sesquichloride of iron and sulphur. Apart from this, the mouth was kept clear by constant gargling. For the gargle diluted lime-water was used. When the subject was too young to use a gargle, inhalations were used in its place.

For the internal treatment the following was used:

℞ Hydragyr. cyanat..... 0.01 gram.
Aquæ dest.....100.00 grams.
Sig.—One teaspoonful every hour.

On the strength of Löffler's experiments the following mixture was applied to diphtheritic patches every 4, 6 or 8 hours:

℞ Acid carbolic..... 3-5 grams.
Ol. terebinth..... .40 "
Alcohol absol.....60 "

Aside from this the following mixture was used as a gargle in suitable cases:

℞ Acid carbolic..... 3 grams.
Alcohol.....20 "
Aquæ distil.....70 "

The danger of poisoning should be guarded against by a careful watching of the urine. As soon as the liquor sesquichloride of iron causes an intense reaction of the urine, the carbolic acid should be stopped

In other cases local mercurial treatment was also instituted. Solutions of 1: 1000 of the bichloride being applied locally, and a 1: 10,000 solution of the bichloride or cyanide used as a gargle.

The mercurial treatment seemed to have certain decided advantages over all others in true diphtheria, although the carbolic treatment was most efficient. A series of bacteriological experiments by Löffler. have shown that the latter treatment acts well upon the diphtheritic progress.

As has been mentioned, recent cases offer greater chances for recovery than those of longer standing. Even when it becomes possible to check the local process, the secondary changes in the organism frequently cause death, especially in cardiac affections.

The results obtainable are equally as unfavorable if the air passages become affected. In favorable cases timely tracheotomy may sometimes prevent stenosis of the larynx, and some times inhalations of lime water, papoid, lactic acid, etc., may cause a loosening of the false membrane.

Those cases which we clinically diagnose as diphtheria, and yet belong to the class of pseudo-diphtherias, distinguish themselves by their lighter course and greater susceptibility to treatment. When treated as true diphtheria, Strübing has found that this form is most satisfactory to treat.

Scarlet diphtheria, or diptheritic scarlet fever, Löffler has found to be due to the action of streptococci. Here the carbolic acid treatment proved to be the most efficient. If the process extends over the entire fauces and nares, and the streptococci have been absorbed into the blood in large quantities, then the patients become "septic," and it is only a happy chance if they recover. If in such cases the local processes have been checked, our attention should be turned to the heart's action, but even the most active treatment is frequently unavailing.

The prophylactic treatment, consisting of gargling or applications of carbolic acid solutions, is recommendable in all cases of scarlet fever.

In conclusion we would say that Strübing's treatment is based upon sound principles, and, more than this, has been proven to be of great value.

THE THERAPEUTIC VALUE OF SUPPURATION.

Vochier having observed improvement in cases of puerperal septicæmia, taking place coincidently with the appearance of a focus of suppuration in some part of the body, suggested that in certain cases the establishment of suppuration by the subcutaneous injection of turpentine might be of therapeutic value. Later a case of pneumonia was reported by Lepine, in which this method appeared to have been of great benefit. A case has recently been reported by Gingeot. A man twenty-nine years of ags, of alcoholic history, suffering from acute pneumonia, received on the ninth day subcutaneous injections of turpentine into the four limbs. At the time his condition was very critical. The injections were very painful and were followed by extensive œdematous patches, and later by suppuration. Within two hours of the first injection the temperature fell two degrees, and this was followed by subsequent improvement. The patient ultimately recovered. A similar case is reported by Raoul in which a patient, apparently moribund on the sixth day, was apparently cured by similar treatment. The explanation of the improvement given by Gingeot is that the production of artificial abscesses, by setting up leucocytosis, brings up reinforcements of phagocytes, as it were, to the assistance of the original defenders.—*Bost. Med. Surg. Jour.*

Book Reviews.

A NEW PRONOUNCING DICTIONARY OF MEDICINE. Being a Voluminous and Exhaustive Hand-Book of Medical and Scientific Terminology, with Phonetic Pronounciation, Accentuation, Etymology, etc. By John M. Keating, M. D., LL. D., Fellow of the College of Physicians, of Philadelphia, etc., and Henry Hamilton, author of a Translation of Virgil's Æneid into English Rhyme, etc., with the collaboration of J. Chalmers DaCosta, M.D., and Frederick A. Packard, M. D. With an Appendix. Philadelphia: W. B. Saunders, 1892. Price, Cloth $5 net; Sheep, $6 net.

This work of nearly a thousand pages octavo gives besides the dictionary proper a considerable amount of matter in the form of an appendix which will prove of every-day usefulness to the physician and student. Like most of its class it does not call for an extended review. Regarding the number of words, it seems sufficiently full—many new words have been added and those obsolete omitted. The definitions are usually crisp and satisfactory, but occasionally we notice a bad slip, as for instance "Catamenia. Applied to the monthly discharge of blood from the ovaries." The question of pronounciation received careful study, the matter seeming to depend entirely as to whether or not Greco-Latin medical terminology should be accepted and incorporated *en masse* as a part of the English language, and they wisely decided to follow the custom of the majority of English-speaking physicians and largely adopt an anglicized pronounciation without hard and fast rules. In connection with accentuation, they have closely followed the rules laid down in Worcester's unabridged.

In the appendix, which occupies nearly hundred pages, we find tables of weights and measures and metric weights and measures; of the equivalents in Centigrade and Fahrenheit scales; table for calculating the period of utero-gestation; diamaters of the female pelvis and fœtal head; table of cardiac murmurs; diagrams of distribution of the cervical, brachial, lumbar and sacral plexuses; table of the cranial nerves; table of the localization of the functions of the segments of the spinal cord; table of the chief characteristics of the principal bacteria; table of leucomaines and ptomaines; table of the number of drops of different liquids required to comdose a fluid drachm; dose table; list of incompatibles; table of poisons with an account of the general symptoms, modes of death, antidotes and general treatment; list of the newer drugs and their solubilities, doses, etc., diagrams of the motor nerve-points, synonyms of diseases, symptoms, signs, etc., designated by proper names, formulæ of standard solutions; drugs and materials used in antiseptic surgery, together with general directions concerning preparations for antiseptic operations.

The book has been printed with new, clear and handsome type on excellent paper. It is alike creditable to authors and publisher and is deserving of the highest recommendation.

ELEMENTS OF MATERIA MEDICA AND THERAPEUTICS, INCLUDING THE WHOLE OF THE REMEDIES OF THE BRITISH PHARMACOPŒIA OF 1885 AND ITS APPENDIX OF 1890. By C E. Armand Semple, B. A., M. B. Cantab, M. R. C. P., Lond. With 400 illustrations. London and New York: Longmans, Green & Co.

In writing this book the author has confined himself to the drugs which are official in the British Pharmacopœia of 1885 and the Appendix of 1890. The work is divided into two sections, the first dealing with inorganic substances, including alcohol, etherial preparations, etc., and the second with vegetable and animal products. But little attention has been given to pharmaceutical detail, the reader being refered to the author's "Aids to Pharmacy." Illustrations are quite numerous and are generally satisfactory; some are quaint and others entirely superfluous. The text is necessarily concise, and as a whole is good.

As a book for the American student it cannot prove of much value, owing to the fact of its not being adapted to our Pharmacopœia.

CARBOLIC ACID POISONING IN A HOSPITAL.

A patient in a London hospital recently died from poisoning under peculiar circumstances. A sister-in-law who had come to visit her gave her to drink from a basin standing on a table near the bed. The basin was thought by the visitor to be filled with water, but actually contained a carbolic acid solution.

Correspondence.

REPLY FROM DR. PHELPS TO DR. SAYRE'S LETTER IN THE ISSUE OF AUGUST 27TH.

To the editor of THE MEDICAL AND SURGICAL REPORTER:—My attention has been called, by Dr. L. A. Sayre, to an article which appeared in your paper on July 9th '92. The article in question is, presumably, a stenographic report of a clinical lecture delivered by me to the class at the N. Y. Post Graduate School and Hospital, some time during the past spring. I also received, by this mail, a copy of the REPORTER of August the 27th, '92, in which I find an article, written by Dr. Sayre, headed "Dr. Phelps Misquotes Dr. Sayre." I enclose to you the following correspondence, which will explain itself:

285 FIFTH AVENUE,
Aug, 11th '92,

My dear Dr. Phelps:—

Reginald has just received a large number of slips on Orthopædic Surgery from Sajou (5) for review. And among them a slip from the Philadelphia REPORTER, of July 9th, '92, containing a lecture by you in which you refer to the Morehead Case of Anchylosis from confinement, and say that all the other joints were anchylosed but strange to say the hip-joint that was diseased was *not anchylosed.* And yet you pretend [to] quote from my Book to prove your statement. How you could possibly make this positive misstatement which is directly the reverse of what is published in my Book, I cannot understand, and wish very much that you would explain it.

Yours truly,
LEWIS A. SAYRE.

REPRODUCTION, FROM MEMORY, OF MY LETTER TO DR. SAYRE.

HOTEL CHAMPLAIN.
Lake Champlain.

Dear Dr. Sayre:

Your letter, of August the 11th, is received, having been forwarded me here. In answer I will say that I was not aware that any lecture of mine had been published in any Philadelphia paper. Any error that may have appeared, however, I will gladly correct. I will call at your office as soon as I return.

Very sincerely,
A. M. PHELPS.

Dr. Sayre accuses me, in both his letter and article, of having wilfully misquoted him from his book. This I have never intentionally done. And any error that may have arisen, either through myself or the stenographer, I assured him in my letter I would be more than willing to correct. Dr. Sayre did not give me the opportunity of even examining the lecture of July the 9th, to which he referred, but immediately addressed an article to the REPORTER accusing me of malicious mis-representation. It would only have been ethical, not to say fair, for Dr. Sayre to have afforded me an opportunity to examine the lecture mentioned, and then write a personal letter to your paper correcting any error that may have crept in. If I hurriedly rushed into the journals with a sensational letter whenever my articles have been misquoted, and my work appropriated by others, without due credit, I would have but little else to occupy me. If an error has presented itself in the lecture attributed to me I am certainly very sorry.

I am, very sincerely,
A. M. PHELPS.

CORRECTIONS OF DR. DAWBARN'S LECTURE IN THE ISSUE OF AUGUST 6TH.

To the Editor of THE MEDICAL AND SURGICAL REPORTER:—I am just in receipt of the copies of your August number, kindly sent, as I have been away from town until now, and have read the report of my clinical lecture published therein. I have frequently admired the grace and appreciated the courtesy with which medical reporters have edited, emended and improved upon my disjointed clinical utterances made generally during operations before a class. The sentences glide smoothly and acquire a polish originally denied them.

This article is no exception to the rule, and I beg you to convey to the gentleman in question in this instance my thanks and my compliments. It is inevitable that under such circumstances—the speaker not having the opportunity to correct proof—occasional errors as to what he

said, or perhaps meant to say but through a possible form of aphasia failed clearly to express—should creep in. I will therefore appreciate the kindness if you will publish the following few corrections:

A propos of intussusception: "The patient was inverted, and nearly two quarts of glycerine introduced into the rectum with a fountain syringe, and the patient kept in that position for half an hour. At the end of that time there was a remarkably copious discharge of fæces, and the obstruction was completely relieved." Here, obviously, the statement should be added, that the patient while in the Trendelenberg posture was under anæsthesia.

"In both volvulus and intussception, the best treatment in my judgment is to cut out the affected portion and make an artificial anus, and a few weeks later operate for the restoration of the continuity of the gut, preferably by intestinal anastomosis."

No surgeon (medicine having failed) would think of taking this severe and dangerous step if on opening the abdomen the obstruction could be reduced without great violence, and if the parts be found not gangrenous. Otherwise, nothing but the excision and subsequent restoration of continuity remain, preferably by (lateral) anastomosis.

—"But on applying a match to one of the perforations in the intestine, there was a violent explosion"—etc. In this discussion of Senn's method with hydrogen gas, the statement should of course be that the match was held near the wound in the abdominal wall; not the gut. By-the-bye, if a cup be placed over the wound to catch the gas, and this, still inverted, be removed to some distance and then lighted, danger of explosion is thereby removed. Better still is my suggestion of using oxygen gas instead of hydrogen, for every reason. It is much more readily obtainable and can be used direct from the canister; it it is a systemic stimulant; is easily absorbed into the blood and recovered; and is non-explosive. A lighted match held in it burns with electric brilliancy, however—which is the test. For reasons roughly outlined in the lecture as printed by you, nevertheless the gas-test is not to be regarded as of much value, and it is even an element of danger in some cases. "—It is only very lately that we have learned that the appendix is not an intraperitoneal viscus." Instead, here read "learned that the *cæcum is* an entirely intraperitoneal viscus."

Again—"This point (that of greatest tenderness in appendicitis) is supposed to be about opposite the *apex* of the appendix, and hence it is mid-point of the incision."

For *apex* read *base* of the appendix—a difference, it is obvious, of four to six inches.

In discussing the technique of the operation for appendicitis I have described a plan of my own (heretofore published) for overcoming by *postural* treatment during the operation, the frequent annoyance caused by the slippery small intestines falling over and in front of the cæcum and appendix. In your report I am made to say—"Turn the patient over so that he rests with the left side against the bed or table, and the field of operation is uppermost; then seize *the edge of the gut* in the abdominal opening with a retractor, and draw it forward away from the spine. This will make a cavity into which the small intestines will fall out of the way, while the cæcum which has a very short mesentery cannot follow, but must remain uppermost."

For the edge of the *gut* read the edge of *cut*: that is, the cut abdominal wall. Also, precede the word *intestines*, by *small*.

"The mucous membrane and the stump of the appendix should be scraped with a spoon, and the stump disinfected," etc. Here read for *spoon*, a smallest sized *Volkmann's sharp spoon*.

This number of corrections, and most of them important ones, might I fear cause a casual reader to think the report of my lecture as a whole a very inaccurate one; which would be far from the truth. The report made quite a long article, containing a considerable number of statements, and almost all were correctly reported—much more so than the average.

Very respectfully yours,

ROBERT H. M. DAWBARN, M. D.
105 West 74th Street, New York.

VESICATION IN INCONTINENCE OF URINE.

Swan (*British Medical Journal*) advises vesication of the nape of the neck as a successful treatment in incontinence of the urine.

Periscope.

THERAPEUTICS.

FEL BOVIS IN TYPHOID FEVER.

Dr. Adolph Zeh, in a lengthy article appearing in *Merck's Bulletin*, gives the treatment in detail of ten cases of typhoid fever in which fel bovis in 3 grain doses, three times a day, was the main reliance, and all the patients recovered. He states that among some personal friends there were forty-eight more cases treated in the same method and not a single fatality. To those interested we commend the reading of the entire paper, which is far too lengthy to reproduce.

TREATMENT OF PNEUMONIA.

From an extensive study of the mortality of pneumonia under different modes of treatment, Reed (*Therapeutic Gazette*, Nos. 3 and 4, 1892) concludes that water, locally applied, either as the wet-pack or as the bath after the method of Brand, is the most efficient single therapeutic measure for acute pneumonia. In the first stage of the disease, veratrum viride or aconite can accomplish more than any other drug; and in the second stage the same is true of digitalis. A combination of one of these cardiac sedatives with opium and diaphoretics constitutes a safe and successful internal treatment in the first stage, being capable of aborting the disease if the administration is begun near the onset and is repeated at short intervals, day and night. Venesection, though a most efficient procedure in the treatment of pneumonia of sthenic type and, judiciously employed, considerably more successful than expectant measures, is no longer an indispensable resource in managing the disease, as other remedies have been found to accomplish the same results more surely and more pleasantly.—*News.*

A THERAPEUTIC NOTE ON ALOPECIA AREATA.

Dr. L. Duncan Bulkley claims that 95 per cent. carbolic acid applied in small areas of denuded hair surface will facilitate the new growth of hair quicker than any other medicine. He applies it by a small cotton swab on areas no larger than two square inches at one time, and rubs the acid well into the tissues. The treatments are given no oftener than once in two weeks on the same patch.—*Journal Cutaneous and Genito-Urinary Diseases*, February, 1892.

MEDICINE.

THE RELATIONS OF THE BRONCHI TO THE POSTERIOR WALL OF THE THORAX.

Bianchi and Cocchi examined twenty-one bodies, with the following results: They find that the trachea divides opposite the body of the fifth dorsal vertebra, and that its lower end is somewhat to the right of the middle line. They state that the right primary bronchus, which descends more obliquely than the left one, corresponds to the fifth intercostal space. The left primary one runs parallel to the sixth rib. The area occupied by the great and medium bronchial tubes extends vertically from the fourth intercostal space or the third rib, to the eighth space, and laterally to four or five centimetres from the line of the spinous processes.

THE RELATION OF VARICOCELE TO NEURASTHENIA.

Wiederhold (*Deutsche med. Wochenschrift*, 1891, No. 37.) believes that in many cases of hysteria with supposed ovarian symptoms the trouble is really due to dilatation of the veins forming the spermatic plexus, and that if any operation is performed ligation of these veins is preferable to castration, providing that the ovary is not much diseased.

FÆCAL VOMITING AND NEUROSES.

Dr. Desnos reports (*La Tribune Med.*, Dec. 3) the case of a youth found unconscious on the highway. He had escaped from a criminal insane hospital. He had epileptiform attacks, but exhibited hysterical stigmata. During several attacks fæcal vomiting occurred. He stated that for two years he had never passed fæces otherwise. The vomitings were fæcal in character and contained no traces of food. They had preserved the mould of intestine. The patient was seen during the attacks. At the time of vomiting he complained of enteralgia and the abdomen became tympanitic. These vomitings had obtained after traumatism producing cicat-

rization of the anal region. Dr. Labbé had seen an hysteric whose enemata were passed by the mouth. Dr. Legendre said that the duration in the first case was exceptional. He had seen similar cases in hysterics. The pathogeny was antiperistaltic movement from the large intestine to the mouth. Dr. Matthieu called attention to the fact Cherchewski (*Revue de Med.*, 1885) had, several years ago, called attention to neurosis attended by tympanitic distension of the abdomen and fæcal vomiting.

SURGERY.

EPITHELIOMA.

At the Vienna Gesellschaft, Eiselburg showed a case of a man, æt. 58, who thirty-five years ago had a pustule on the parasternal line that was rubbed off, forming a sore. Twenty years ago it was about the size of two kreuzers, at the present time twice the area of the palm of the hand. The site is unusual. He related two others that had come under his notice, one on the deltoid, another on the upper part of the arm, after a burn he had had when seven years of age.

ABSCESSES IN POTT'S DISEASE.

Dr. Burrell believes the following conclusions are warranted: 1. That efficient mechanical support of the spine is the prime factor in the treatment of caries of the spine associated with an abscess. 2. That under an expectant plan of treatment the abscess will, in many cases, disappear. 3. That the indication for operative interference is a steady or rapid decline in the patient's general condition. 4. That the operation should consist in thorough evacuation of the abscess, and the establishment of drainage from as near the seat of the disease as is practicable.—*Archives of Pediatrics*, May, 1892.

ON THE TORSION OF ARTERIES.

In connection with operations for excision of tumors, and other excisions of a like character, Jonathan Hutchison remarks as follows: "I may mention that for many years I have quite ceased to use any other means for arrest of arterial bleeding than torsion. In excision of the breast, for instance, I do not think that I have during the last fifteen years ever used a ligature. The torsion is always effected by a pair of Well's clamp forceps, now in such universal employment. I am always extremely careful to close all the vessels, keeping the wound exposed for a considerable time for that purpose. Very seldom, indeed, have I encountered any secondary hæmorrhage."—*Archives of Surgery.*

OBSTETRICS.

INFLUENCE OF MACERATED FŒTUS ON CHILDBED.

Swiecicki (*Nouv. Arch. d'Obstét. et de Gynéc.*, March 25th, 1892, Supplement, p. 137) finds that in 247 cases of macerated fœtus, childbed was perfectly normal in 157 cases, even when fœtid gases and stinking liquor amnii were expelled from the uterus. In seventeen cases inflamed breasts occurred, without suppuration; in seven *post-partum* hæmorrhage with rise of temperature; and in seven temporary œdema of the vulva. In fifty-two cases there was rise of temperature during the puerperium without appreciable cause; it appears that syphilitic women are subject to such rises in childbed. This must be due, Swiecicki thinks, to external infection; the macerated fœtus cannot infect until air has entered the uterus. In six cases slight parametritis occurred. Only one of the 247 died, and in this instance pleuro-pneumonia and nephritis existed before labor. Labor usually takes place about the seventh month, but neither the maceration of the fœtus nor its extraction at delivery appears to have any distinctly bad influence on childbed.—*Brit. Med. Jour.*

PROTECTION OF THE PERINEUM.

Dr. William S. Gardner (*Journal of Gynæcology and Obstetrics*) writes that the value of a complete perineum is so great that the gynœcologist spends much time in inventing new methods for its repair. What he has to offer on this subject is only the method of applying the principle that time is the great perineal protector, bearing in mind that almost any perineum will distend sufficiently to allow the safe passage of the head, if only the head can be prevented from advancing with too great rapidity

just during the last portion of the second stage of labor. The two great forces driving the child toward the outer world are the contractions of the uterus and the contractions of the abdominal muscles. There comes a time in the labor when the perineum becomes so weakened by distention that it can no longer bear the great pressure of these combined forces, a time when a few minutes' delay means the prevention of a rupture. Uterine action is beyond our control; the contraction of the abdominal muscles can be controlled either by complete anæsthesia or by the will of the patient. She is instructed in the interval between the pains that when she feels a pain coming on she is at once to open her mouth and breathe through it as rapidly as possible. In addition the the head is held back by pressing against the perineum in the direction of the pubes. The perineum should be as carefully guarded during the passage of the shoulders as during the delivery of the head.

GYNECOLOGY.

LIPOMA AND FIBROMA OF THE FALLOPIAN TUBE.

Parona (*Ann. di Obtet. e Gin.*, 1892, No. 2) in removing the adnexa for the cure of uterine fibro-myoma, encountered a lipoma the size of a pear, from which was pendent a normal ovary. The tube was so imbedded in the tumor that only the fimbriated end was visible. It apparently developed from one of the fimbriæ.

Spaeth (*Zeitschrift für Geb. u Gyn.*, Bd. xxii., Heft 2) reports the case of a patient from whom he removed a tube which contained a true interstitial fibromyoma imbedded in its wall at a short distance from the uterine end. There were no evidences of chronic inflammation in the tube, so that it could not have been a case of so-called pachysalpingitis.

SALICINE FOR PELVIC PAIN.

Cheron (*Med. News*) states that in pelvic pain during the course of metritis or salpingo-ovaritis as well as in pelvic cellulitis and peritonitis particularly if these troubles are associated with rheumatism, that salicine is of value. In those women who after the menopause, have uterine pain and discomfort in the lumbar or sacral region, with occasional flushes of heat and neuralgic dartings, a careful interrogation as to any history of rheumatism should be sought for, and if this disease is found to be present, salicine is administered. The dose which he ordinarily recommends is fifteen grains, to be divided into three parts. Very soon after the administered the pain decreases. Cheron generally directs that one drachm of salicine be divided into twelve capsules. One of these capsules may be given morning, noon and night, the patient taking a glass of water at the same time to prevent irritation of the stomach.—*Arch. of Gyn.*

NEWS AND MISCELLANY.

THE DOCTOR AS A DEBTOR.

There is a good deal said in medical journals about the doctor's bills and the hard time he has to collect them. It seems that there are doctors who are debtors, and who are not very responsive to just monetary claims upon them. We are rather glad that the Cleveland boy, as narrated below, got the best of his debtor. The boy in question had as a customer a certain South Side doctor. When the physician's bill reached $1 the boy presented it. It was hard to collect. The boy called several times, but the doctor never had the dollar. The physician moved away and the lad lost sight of him for a time, but finally located him on the West Side and renewed his attacks. At last one day he told his mother he would make one more effort, and then if that were not successful he would give up. Accordingly he went to the doctor's office and found the doctor out. But inside the door hung the customary slate. On it the boy wrote. "Call at——Street, William Smith." The doctor called and the boy saw him coming up the street. He told his mother what he had done, and said: "Now, I will hide, and you show him the bill." "I will do nothing of the kind, Willie Smith," said the lady, "and you ought to be ashamed of yourself." A young lady visitor in the family thought more of the scheme and, confronting the doctor at the door, presented the bill. The professional man said that the joke was on him, paid the dollar, and went away laughing.—*Medical Record.*